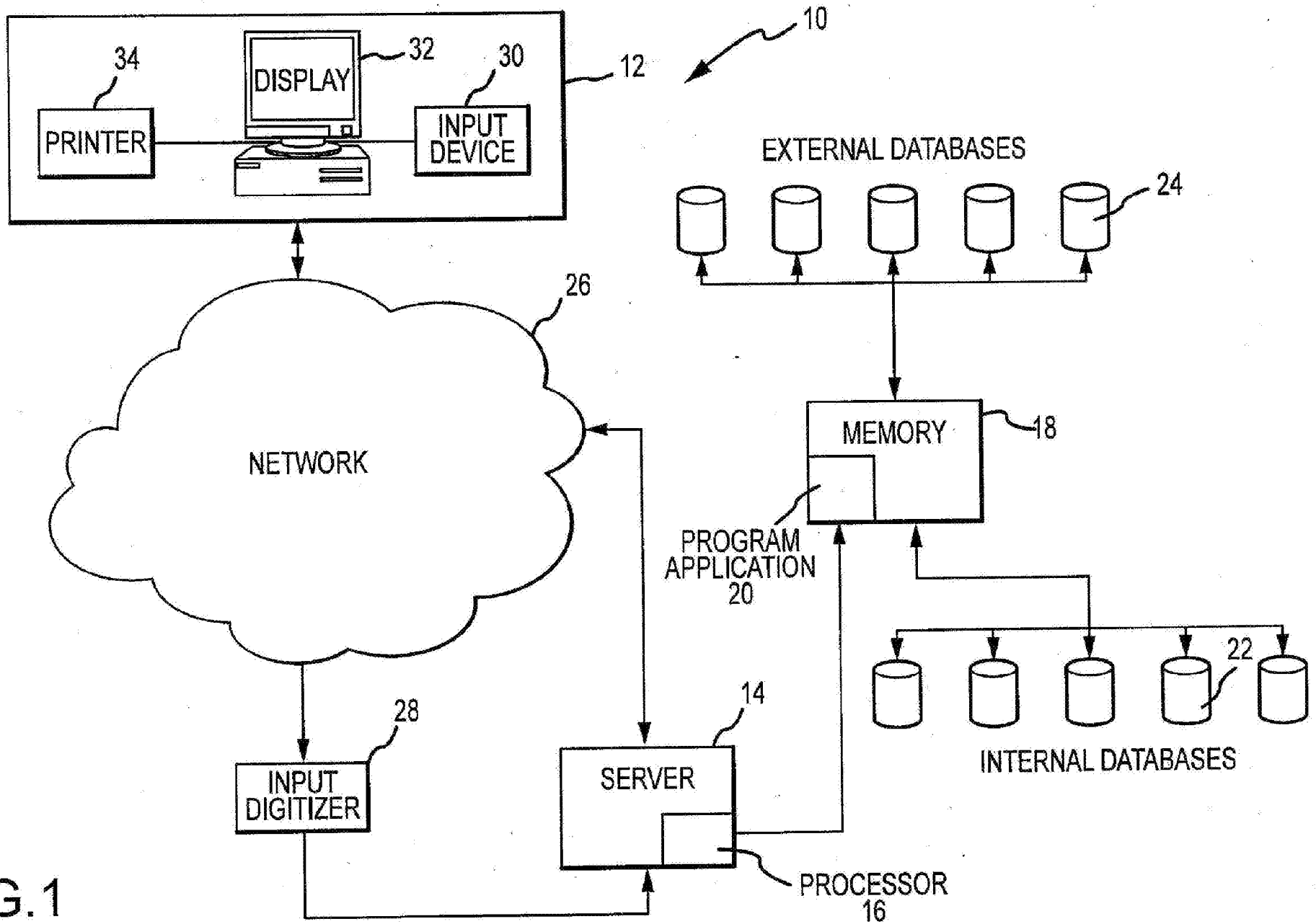

10
12
34
PRINTER
DISPLAY
32
30
INPUT DEVICE
EXTERNAL DATABASES
24
26
NETWORK
MEMORY
18
PROGRAM APPLICATION 20
22
INTERNAL DATABASES
28
INPUT DIGITIZER
14
SERVER
PROCESSOR 16

FIG.1

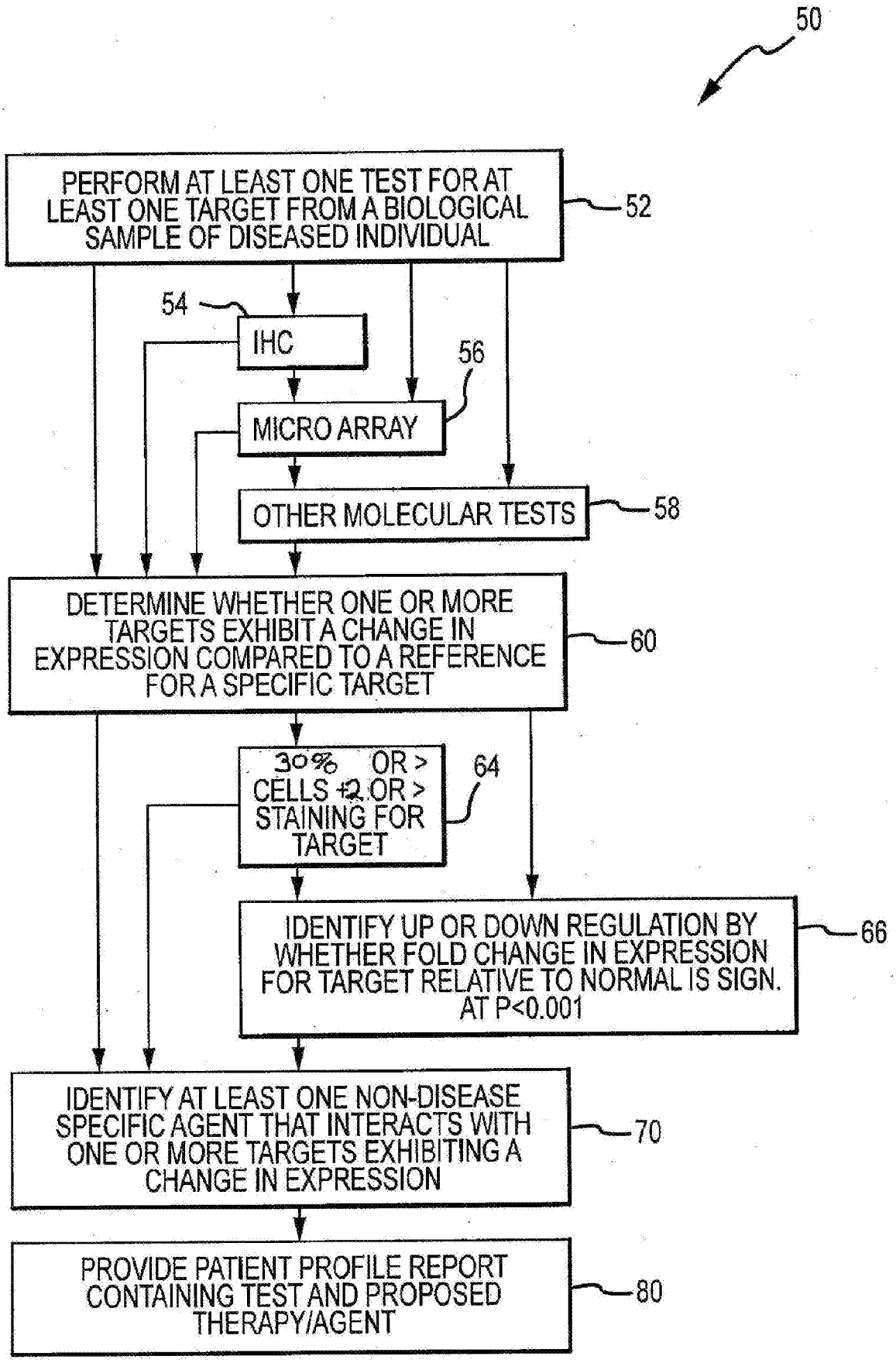

50
PERFORM AT LEAST ONE TEST FOR AT LEAST ONE TARGET FROM A BIOLOGICAL SAMPLE OF DISEASED INDIVIDUAL
52
54
IHC
56
MICRO ARRAY
OTHER MOLECULAR TESTS
58
DETERMINE WHETHER ONE OR MORE TARGETS EXHIBIT A CHANGE IN EXPRESSION COMPARED TO A REFERENCE FOR A SPECIFIC TARGET
60
30% OR > CELLS +2 OR > STAINING FOR TARGET
64
IDENTIFY UP OR DOWN REGULATION BY WHETHER FOLD CHANGE IN EXPRESSION FOR TARGET RELATIVE TO NORMAL IS SIGN. AT P<0.001
66
IDENTIFY AT LEAST ONE NON-DISEASE SPECIFIC AGENT THAT INTERACTS WITH ONE OR MORE TARGETS EXHIBITING A CHANGE IN EXPRESSION
70
PROVIDE PATIENT PROFILE REPORT CONTAINING TEST AND PROPOSED THERAPY/AGENT
80

FIG.2

MOLECULAR PROFILING INSTITUTE	PATIENT INFORMATION	PHYSICIAN INFORMATION
	NAME: SAMPLE PATIENT SEX: FEMALE DOB: 6/1/1974 SSN#: 123-45-6789	SOME DOCTOR, M.D. 1234 E. SOUTH ST. TUCSON, AX 12345 480-123-4567

REPORT INFORMATION	VER 1.6.2:4-25-06
DATE SPECIMEN RECEIVED: 02/01/2006 DATE REPORTED: 02/09/2006 CASE NO. MP-TN06-05040 DATE SPECIMEN COLLECTED AT HOST MEDICAL CENTER: 01/24/2006	

SPECIAL STUDIES

RESULTS AND INTERPRETATION

INTERPRETATION:

REVIEW OF PATHOLOGY SLIDES: (RECEIVED FROM MAIN HOSPITAL, TUCSON, AZ, ONE PARAFFIN BLOCK LABELED M01-123 AND FROZEN TISSUE).

PELVIC AND RETROPERITONEAL TUMOR: INFLAMMATORY MYOFIBROLASTIC TUMOR.

100

102 104 106

POSSIBLE AGENTS THAT MIGHT INTERACT WITH CANDIDATE GENE TARGETS:

ASSAY*	CANDIDATE TARGET	SIGNIFICANT RESULT	POSSIBLE AGENT(S)
MICROARRAY	NFKBIA	(INCREASED 1.78)**	VELCADE
IHC	C-KIT	(INCREASED +2, 90%)	GLEEVEC, SUTENT
MICROARRAY	PDGFRA	(INCREASED 4.74)**	GLEEVEC, SORAFENIB, SUTENT
MICROARRAY	GART	(INCREASED 1.90)**	ALIMTA
MICROARRAY	VDR	(INCREASED 37.30)**	CALCITRIOL
MICROARRAY	ADA	(INCREASED 5.26)**	PENTOSTATIN
MICROARRAY	TOP1	(INCREASED 2.78)**	TOPOTECAN, CAMPTOSAR (CPT11)
MICROARRAY	HIF1A	(INCREASED 4.03)**	AVASTIN, SORAFENIB. SUTENT
MICROARRAY	DNMT1	(INCREASED 1.51)**	VIDAZA (5-AZACYTIDINE)

*IHC = IMMUNOHISTOCHEMISTRY

** INCREASED OR DECREASED ARE RELATIVE TO NORMAL CONTRLS.

FIG.3A

MOLECULAR PROFILING INSTITUTE	PATIENT INFORMATION	PHYSICIAN INFORMATION
	NAME: SAMPLE PATIENT SEX: FEMALE DOB: 6/1/1974 SSN#: 123-45-6789	SOME DOCTOR, M.D. 1234 E. SOUTH ST. TUCSON, AX 12345 480-123-4567

REPORT INFORMATION	VER 1.6.2:4-25-06
DATE SPECIMEN RECEIVED: 02/01/2006 DATE REPORTED: 02/09/2006 CASE NO. MP-TN06-05040	
DATE SPECIMEN COLLECTED AT HOST MEDICAL CENTER: 01/24/2006	

SPECIAL STUDIES

RESULTS AND INTERPRETATION

ADVANCED IMMUNOHISTOCHEMICAL ANALYSIS:

GENE EXPRESSED PROTEIN	CONCLUSION	SPECIFICITY	INTENSITY	%	TARGET STATUS*
HER2/NEU	NEGATIVE				
ER	NEGATIVE				
PR	NEGATIVE				
C - KIT	POSITIVE	SPECIFIC	2	90	TARGET
EGFR	NEGATIVE				
COX - 2	NEGATIVE				
ANDROGEN RECEPTOR	NEGATIVE				
CD52	NEGATIVE				
PDGFR	NEGATIVE	NON-SPECIFIC			
CD25	NEGATIVE				

112

100

110

108

*2+ IHC IN GREATER THAN 30% OF THE TUMOR CELLS HAS BEEN CHOSEN AS A CONSERVATIVE DIVIDING POINT TO REPORT A POTENTIAL TARGET AS POSITIVE TO HELP INCREASE PHARMACOLOGIC EFFECTIVENESS.

114

IMMUNOHISTOCHEMICAL TESTS NOT PERFORMED

I L - 2	TOPOISOMERASE I	MLH1
NF - KAPPA BETA	TOPOISOMERASE II	MSH2
THYMIDYLATE SYNTHASE	RETINOIC ACID RECEPTOR	CD20
ERCC3 (HELICASE)	R X R	P53
THYMIDINE PHOSPHORYLASE	ORNITHINE DECARBOXYLASE	CYCLIN D1
NGF	SOMATOSTATIN	BCL - 2
MTAP	RAS (MUTATED)	VEGF
MAP KINASE PROTEIN	ASPARAGINE SYNTHETASE	
XANTHINE OXIDASE		

FIG.3B

MOLECULAR PROFILING INSTITUTE

PATIENT INFORMATION
NAME: SAMPLE PATIENT
SEX: FEMALE
DOB: 6/1/1974
SSN#: 123-45-6789

PHYSICIAN INFORMATION
SOME DOCTOR, M.D.
1234 E. SOUTH ST.
TUCSON, AX 12345
480-123-4567

REPORT INFORMATION VER 1.6.2:4-25-06

DATE SPECIMEN RECEIVED: 02/01/2006 DATE REPORTED: 02/09/2006 CASE NO. MP-TN06-05040

DATE SPECIMEN COLLECTED AT HOST MEDICAL CENTER: 01/24/2006

SPECIAL STUDIES

MICROARRAY RESULTS

116 118 MICROARRAY ANALYSIS:

GENE	RATIO	EXPRESSION* ANALYSIS	
AR	0.02	UNDER EXPRESSED	
ESR1	0.09	UNDER EXPRESSED	
PGR	0.10	UNDER EXPRESSED	
VEGF	0.33	UNDER EXPRESSED	
KIT	0.51	UNDER EXPRESSED	
PDGFC	0.53	UNDER EXPRESSED	
RXRB	0.62	NO CHANGE	
TOP2B	0.62	UNDER EXPRESSED	
RAF1	0.68	NO CHANGE	
ERBB2	0.69	NO CHANGE	
ERCC3	0.71	NO CHANGE	
BCL2	0.71	NO CHANGE	
PDGFRB	0.78	NO CHANGE	
BCL2	0.80	NO CHANGE	
GSTP1	0.85	NO CHANGE	
SPARC	0.92	NO CHANGE	
HDAC1	0.95	NO CHANGE	
POLA	0.98	NO CHANGE	
MSH2	0.98	NO CHANGE	
CES2	1.05	NO CHANGE	
VEGF	1.09	NO CHANGE	
SSTR1	1.11	NO CHANGE	
PTEN	1.11	NO CHANGE	

116 118

GENE	RATIO	EXPRESSION* ANALYSIS	
EGFR	1.16	NO CHANGE	
OGFR	1.17	NO CHANGE	
MLH1	1.19	NO CHANGE	
VHL	1.22	NO CHANGE	
TNF	1.29	NO CHANGE	
RARA	1.38	NO CHANGE	
HSPCA	1.42	NO CHANGE	
TXNRD1	1.42	NO CHANGE	
ASNS	1.44	NO CHANGE	
DNMT1	1.51	OVER EXPRESSED	
NFKB2	1.74	NO CHANGE	
NFKBIA	1.78	OVER EXPRESSED	
PTGS2	1.81	NO CHANGE	
BRCA2	1.83	NO CHANGE	
GART	1.90	OVER EXPRESSED	
CDW52	2.15	OVER EXPRESSED	
ZAP70	2.18	NO CHANGE	
FOLR2	2.21	OVER EXPRESSED	
ZAP70	2.76	NO CHANGE	
TOP1	2.78	OVER EXPRESSED	
MS4A1	2.86	NO CHANGE	
ZAP70	2.86	NO CHANGE	
ZAP70	2.92	NO CHANGE	

116 118 100

GENE	RATIO	EXPRESSION* ANALYSIS	
ZAP70	3.00	NO CHANGE	
ZAP70	3.02	NO CHANGE	
CD33	3.05	OVER EXPRESSED	
ZAP70	3.06	NO CHANGE	
ZAP70	3.13	NO CHANGE	
ZAP70	3.18	NO CHANGE	
ZAP70	3.40	NO CHANGE	
CD33	3.52	OVER EXPRESSED	
HIF1A	3.84	OVER EXPRESSED	
HIF1A	3.85	OVER EXPRESSED	
HIF1A	3.88	OVER EXPRESSED	
HIF1A	3.90	OVER EXPRESSED	
HIF1A	3.90	OVER EXPRESSED	
HIF1A	3.91	OVER EXPRESSED	
HIF1A	3.94	OVER EXPRESSED	
HIF1A	3.97	OVER EXPRESSED	
HIF1A	4.01	OVER EXPRESSED	
HIF1A	4.03	OVER EXPRESSED	
PDGFRA	4.74	OVER EXPRESSED	
TK1	4.94	OVER EXPRESSED	
IL2RA	5.07	NO CHANGE	
ADA	5.26	OVER EXPRESSED	
TOP2A	9.34	NO CHANGE	
TYMS	22.95	OVER EXPRESSED	
VDR	37.30	OVER EXPRESSED	

*"NO CHANGE" INDICATES THAT THERE IS NO DIFFERENCE IN EXPRESSION FOR THIS GENE BETWEEN THE TUMOR AND CONTROL TISSUES AT A SIGNIFICANCE LEVEL OF P<=0.001. A SIGNIFICANCE LEVEL OF P<=0.001 HAS BEEN CHOSEN SINCE GENES PASSING THIS THRESHOLD CAN BE VALIDATED AS DIFFERENTIALLY EXPRESSED BY ALTERNATIVE METHODS APPROXIMATELY 95% OF THE TIME.

FIG.3C

100

PATIENT: SAMPLE PATIENT | CASE NO. MP-TN06-05040 | DATE REPORTED: 2/9/2006

CLINICAL INFORMATION

CLINICAL HISTORY

120 THE PATIENT WAS DIAGNOSED WITH INFLAMATORY MYOFIBROBLASTIC TUMOR IN FEB, 2004. AT THAT TIME A LARGE MASS WAS REMOVED FROM HER ABDOMEN. THE PATIENT NOW HAS RECURRENT MASSES ON HER LEFT UPPER QUADRANT AND IN THE PELVIS. PER THE PATIENT CHART, DR SOME REVIEWED THIS CASE WITH DR VON HOFF AND IT WAS AGREED THAT PERFORMING DNA MICROARRAY AND IHC TESTING ON THIS PATIENT MAY PROVIDE INSIGHT INTO FURTHER TREATMENT OPTIONS.

SPECIMENS SUBMITTED

122 RECEIVED FROM MAIN HOSPITAL, TUCSON, AZ, ONE PARAFFIN BLOCK LABELED M01-123 AND FROZEN TISSUE WITH THE ACCOMPANYING SURGICAL PATHOLOGY REPORT.

DISCLAIMER

THESE TESTS WERE DEVELOPED BY MOLECULAR PROFILING AND THEIR PERFORMANCE CHARACTERISTICS DETERMINED BY MOLECULAR PROFILING. IT HAS NOT BEEN CLEARED OR APPROVED BY THE U.S. FOOD AND DRUG ADMINISTRATION (FDA). THESE TESTS ARE PERMITTED FOR CLINICAL PURPOSES AND SHOULD NOT BE REGARDED AS PURELY INVESTIGATIONAL OR FOR RESEARCH. MOLECULAR PROFILING IS CERTIFIED UNDER THE CLINICAL LABORATORY IMPROVEMENT AMENDMENTS OF 1988 (CLIA) AS QUALIFIED TO PERFORM HIGH-COMPLEXITY CLINICAL TESTING.

DECISIONS REGARDING CARE AND TREATMENT SHOULD NOT BE BASED ON A SINGLE TEST SUCH AS THIS TEST. RATHER DECISIONS ON CARE AND TREATMENT SHOULD BE BASED ON THE INDEPENDENT MEDICAL JUDGMENT OF THE TREATING PHYSICIAN TAKING INTO CONSIDERATION ALL AVAILABLE INFORMATION CONCERNING THE PATIENT'S CONDITION, INCLUDING OTHER LABORATORY TESTS, IN ACCORDANCE WITH THE STANDARD OF CARE IN A GIVEN COMMUNITY.

THE FINDING OF A TARGET DOES NOT NECESSARILY INDICATE PHARMACOLOGIC EFFECTIVENESS.

ROBERT J. PENNY, MD, PHD, PATHOLOGIST AND MEDICAL DIRECTOR — 2/9/2006 DATE

FIG.3D

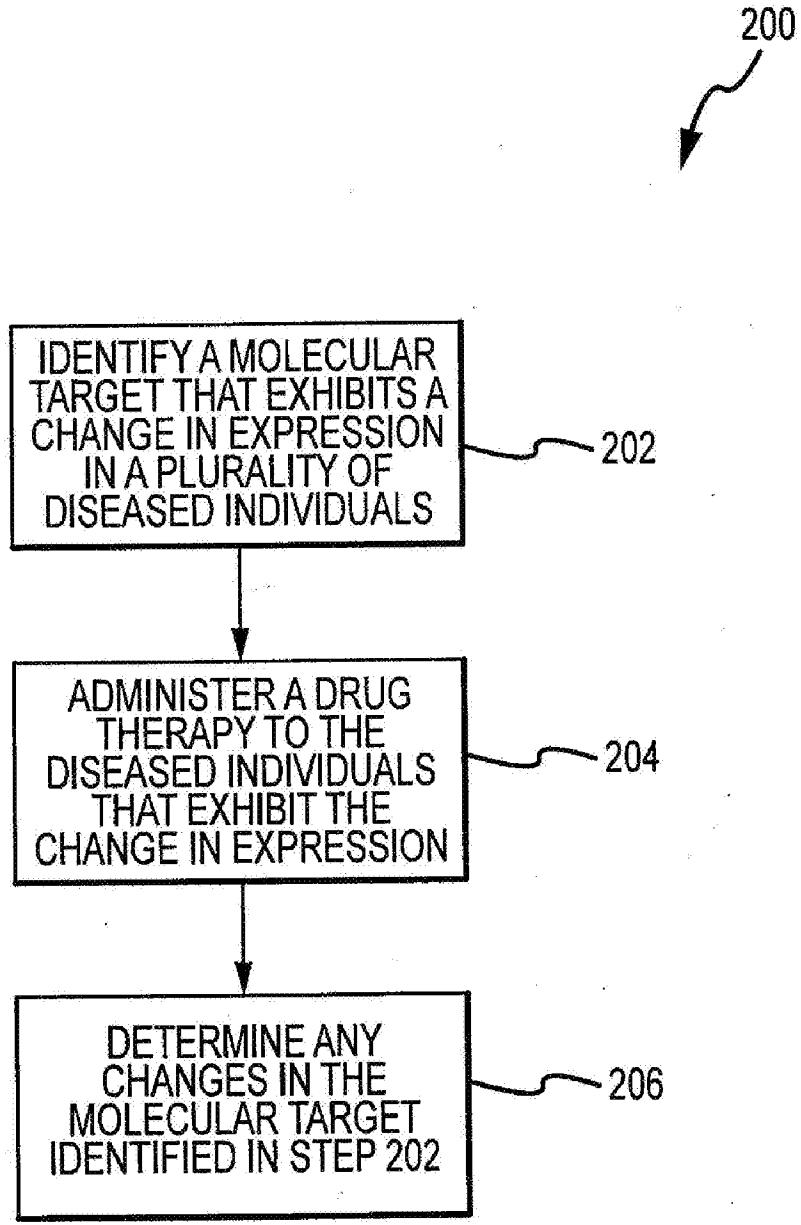

200
IDENTIFY A MOLECULAR TARGET THAT EXHIBITS A CHANGE IN EXPRESSION IN A PLURALITY OF DISEASED INDIVIDUALS
202
ADMINISTER A DRUG THERAPY TO THE DISEASED INDIVIDUALS THAT EXHIBIT THE CHANGE IN EXPRESSION
204
DETERMINE ANY CHANGES IN THE MOLECULAR TARGET IDENTIFIED IN STEP 202
206

FIG.4

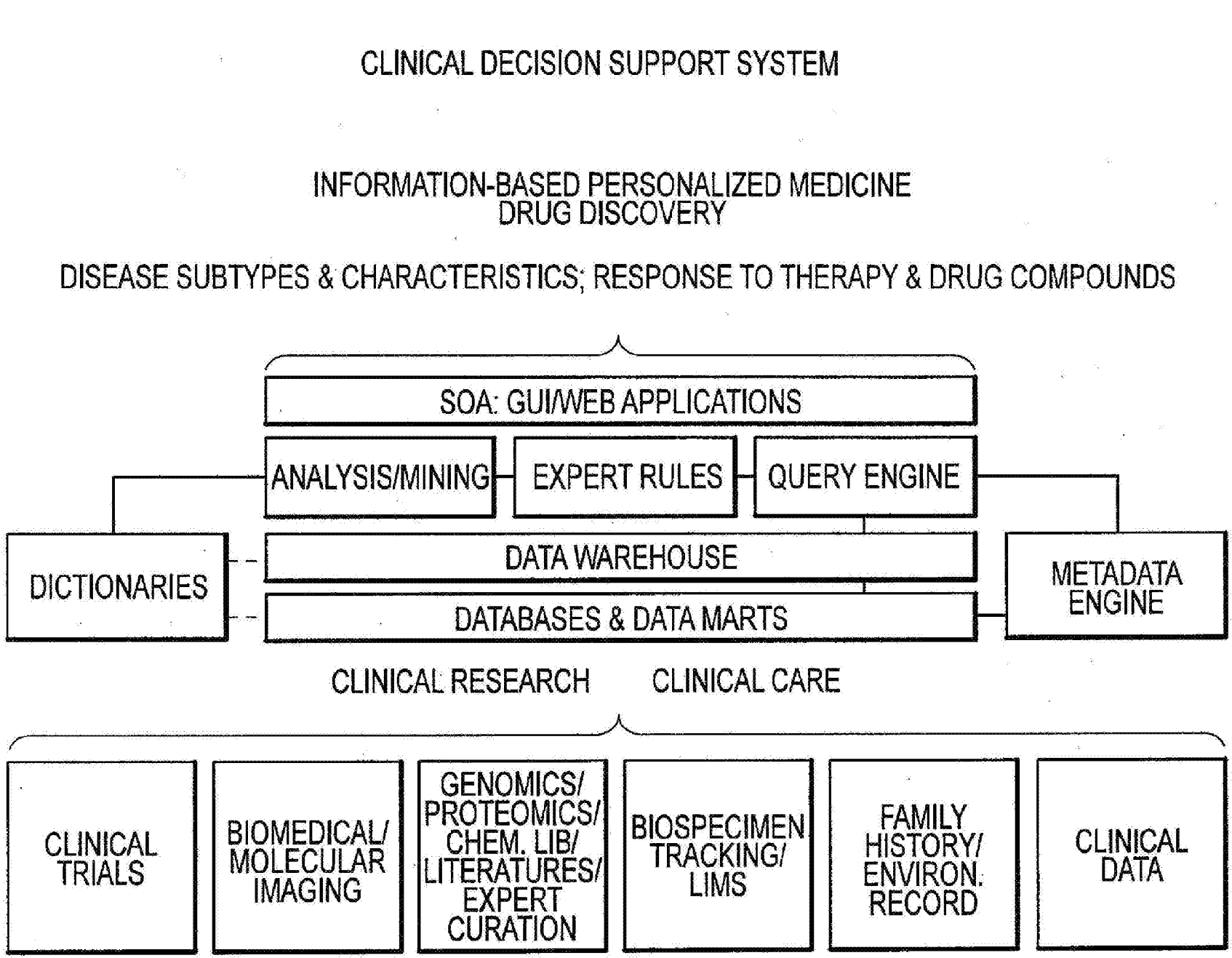

CLINICAL DECISION SUPPORT SYSTEM
INFORMATION-BASED PERSONALIZED MEDICINE
DRUG DISCOVERY
DISEASE SUBTYPES & CHARACTERISTICS; RESPONSE TO THERAPY & DRUG COMPOUNDS
SOA: GUI/WEB APPLICATIONS
ANALYSIS/MINING
EXPERT RULES
QUERY ENGINE
DICTIONARIES
DATA WAREHOUSE
DATABASES & DATA MARTS
METADATA ENGINE
CLINICAL RESEARCH
CLINICAL CARE
CLINICAL TRIALS
BIOMEDICAL/ MOLECULAR IMAGING
GENOMICS/ PROTEOMICS/ CHEM. LIB/ LITERATURES/ EXPERT CURATION
BIOSPECIMEN TRACKING/ LIMS
FAMILY HISTORY/ ENVIRON. RECORD
CLINICAL DATA

FIG.5

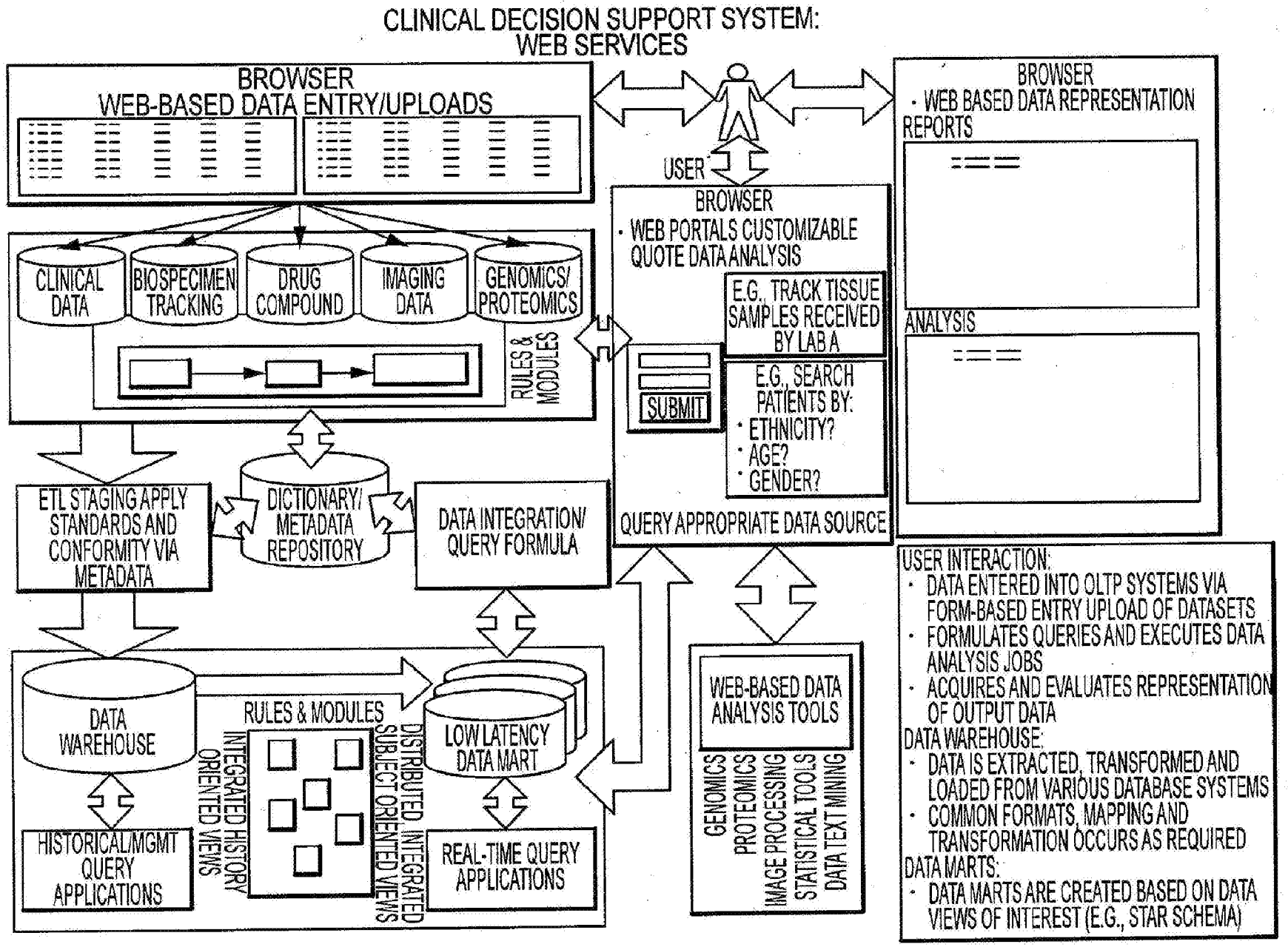

CLINICAL DECISION SUPPORT SYSTEM:
WEB SERVICES
BROWSER
WEB-BASED DATA ENTRY/UPLOADS
USER
BROWSER
· WEB BASED DATA REPRESENTATION
REPORTS
ANALYSIS
BROWSER
· WEB PORTALS CUSTOMIZABLE
QUOTE DATA ANALYSIS
E.G., TRACK TISSUE SAMPLES RECEIVED BY LAB A
E.G., SEARCH PATIENTS BY:
· ETHNICITY?
· AGE?
· GENDER?
SUBMIT
QUERY APPROPRIATE DATA SOURCE
CLINICAL DATA
BIOSPECIMEN TRACKING
DRUG COMPOUND
IMAGING DATA
GENOMICS/ PROTEOMICS
RULES & MODULES
ETL STAGING APPLY STANDARDS AND CONFORMITY VIA METADATA
DICTIONARY/ METADATA REPOSITORY
DATA INTEGRATION/ QUERY FORMULA
DATA WAREHOUSE
RULES & MODULES
INTEGRATED HISTORY ORIENTED VIEWS
DISTRIBUTED INTEGRATED SUBJECT ORIENTED VIEWS
LOW LATENCY DATA MART
HISTORICAL/MGMT QUERY APPLICATIONS
REAL-TIME QUERY APPLICATIONS
WEB-BASED DATA ANALYSIS TOOLS
GENOMICS
PROTEOMICS
IMAGE PROCESSING
STATISTICAL TOOLS
DATA TEXT MINING
USER INTERACTION:
· DATA ENTERED INTO OLTP SYSTEMS VIA FORM-BASED ENTRY UPLOAD OF DATASETS
· FORMULATES QUERIES AND EXECUTES DATA ANALYSIS JOBS
· ACQUIRES AND EVALUATES REPRESENTATION OF OUTPUT DATA
DATA WAREHOUSE:
· DATA IS EXTRACTED, TRANSFORMED AND LOADED FROM VARIOUS DATABASE SYSTEMS
· COMMON FORMATS, MAPPING AND TRANSFORMATION OCCURS AS REQUIRED
DATA MARTS:
· DATA MARTS ARE CREATED BASED ON DATA VIEWS OF INTEREST (E.G., STAR SCHEMA)

FIG.6

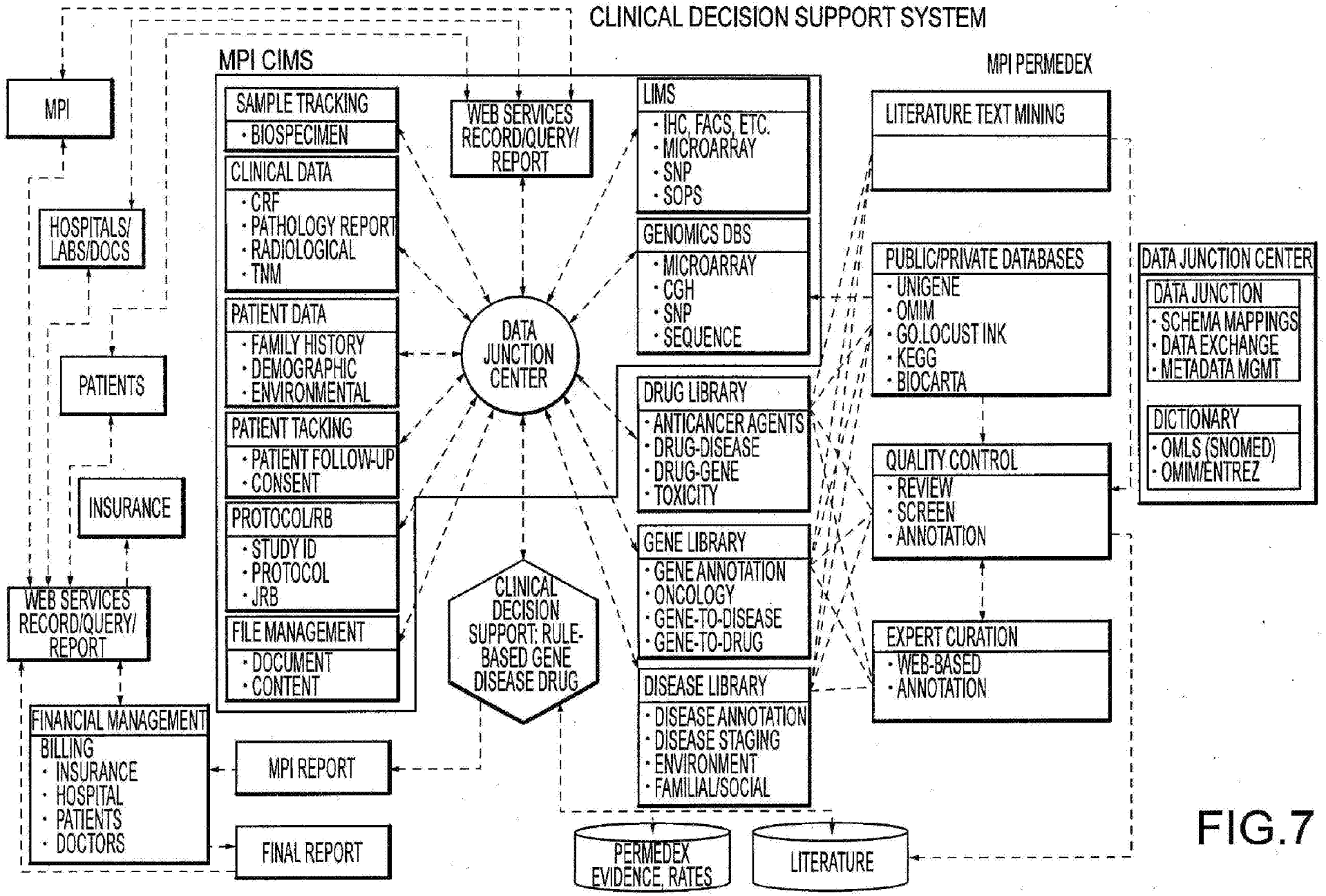

CLINICAL DECISION SUPPORT SYSTEM
MPI CIMS
MPI PERMEDEX
MPI
HOSPITALS/ LABS/DOCS
PATIENTS
INSURANCE
WEB SERVICES RECORD/QUERY/ REPORT
FINANCIAL MANAGEMENT
BILLING
· INSURANCE
· HOSPITAL
· PATIENTS
· DOCTORS
SAMPLE TRACKING
· BIOSPECIMEN
CLINICAL DATA
· CRF
· PATHOLOGY REPORT
· RADIOLOGICAL
· TNM
PATIENT DATA
· FAMILY HISTORY
· DEMOGRAPHIC
· ENVIRONMENTAL
PATIENT TACKING
· PATIENT FOLLOW-UP
· CONSENT
PROTOCOL/RB
· STUDY ID
· PROTOCOL
· JRB
FILE MANAGEMENT
· DOCUMENT
· CONTENT
WEB SERVICES RECORD/QUERY/ REPORT
DATA JUNCTION CENTER
CLINICAL DECISION SUPPORT: RULE-BASED GENE DISEASE DRUG
LIMS
· IHC, FACS, ETC.
· MICROARRAY
· SNP
· SOPS
GENOMICS DBS
· MICROARRAY
· CGH
· SNP
· SEQUENCE
DRUG LIBRARY
· ANTICANCER AGENTS
· DRUG-DISEASE
· DRUG-GENE
· TOXICITY
GENE LIBRARY
· GENE ANNOTATION
· ONCOLOGY
· GENE-TO-DISEASE
· GENE-TO-DRUG
DISEASE LIBRARY
· DISEASE ANNOTATION
· DISEASE STAGING
· ENVIRONMENT
· FAMILIAL/SOCIAL
LITERATURE TEXT MINING
PUBLIC/PRIVATE DATABASES
· UNIGENE
· OMIM
· GO.LOCUST INK
· KEGG
· BIOCARTA
QUALITY CONTROL
· REVIEW
· SCREEN
· ANNOTATION
EXPERT CURATION
· WEB-BASED
· ANNOTATION
DATA JUNCTION CENTER
DATA JUNCTION
· SCHEMA MAPPINGS
· DATA EXCHANGE
· METADATA MGMT
DICTIONARY
· OMLS (SNOMED)
· OMIM/ENTREZ
MPI REPORT
FINAL REPORT
PERMEDEX EVIDENCE, RATES
LITERATURE

FIG.7

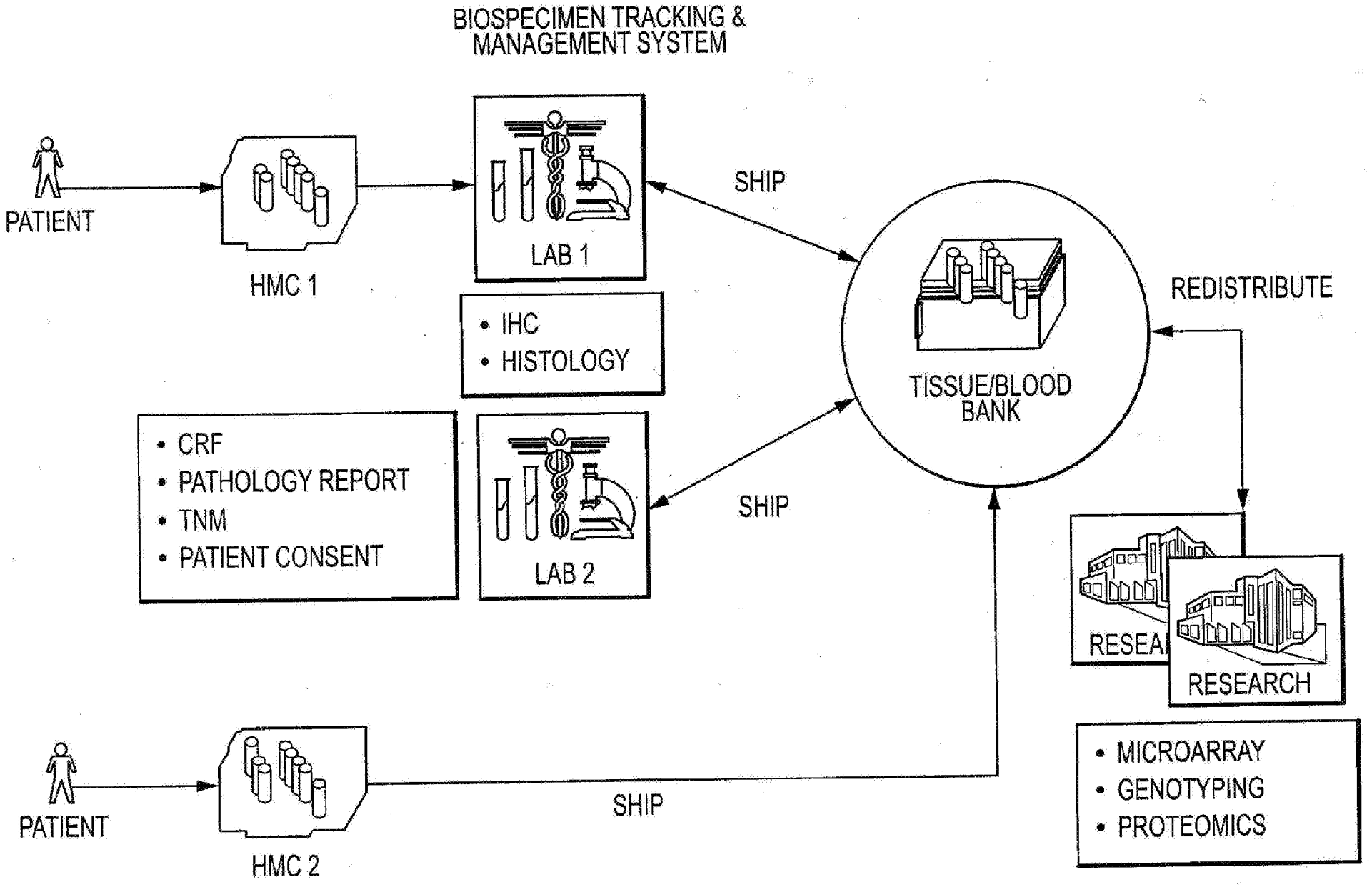

BIOSPECIMEN TRACKING &
MANAGEMENT SYSTEM
PATIENT
HMC 1
LAB 1
• IHC
• HISTOLOGY
SHIP
TISSUE/BLOOD
BANK
REDISTRIBUTE
• CRF
• PATHOLOGY REPORT
• TNM
• PATIENT CONSENT
LAB 2
SHIP
RESEARCH
• MICROARRAY
• GENOTYPING
• PROTEOMICS
PATIENT
HMC 2
SHIP

FIG.8

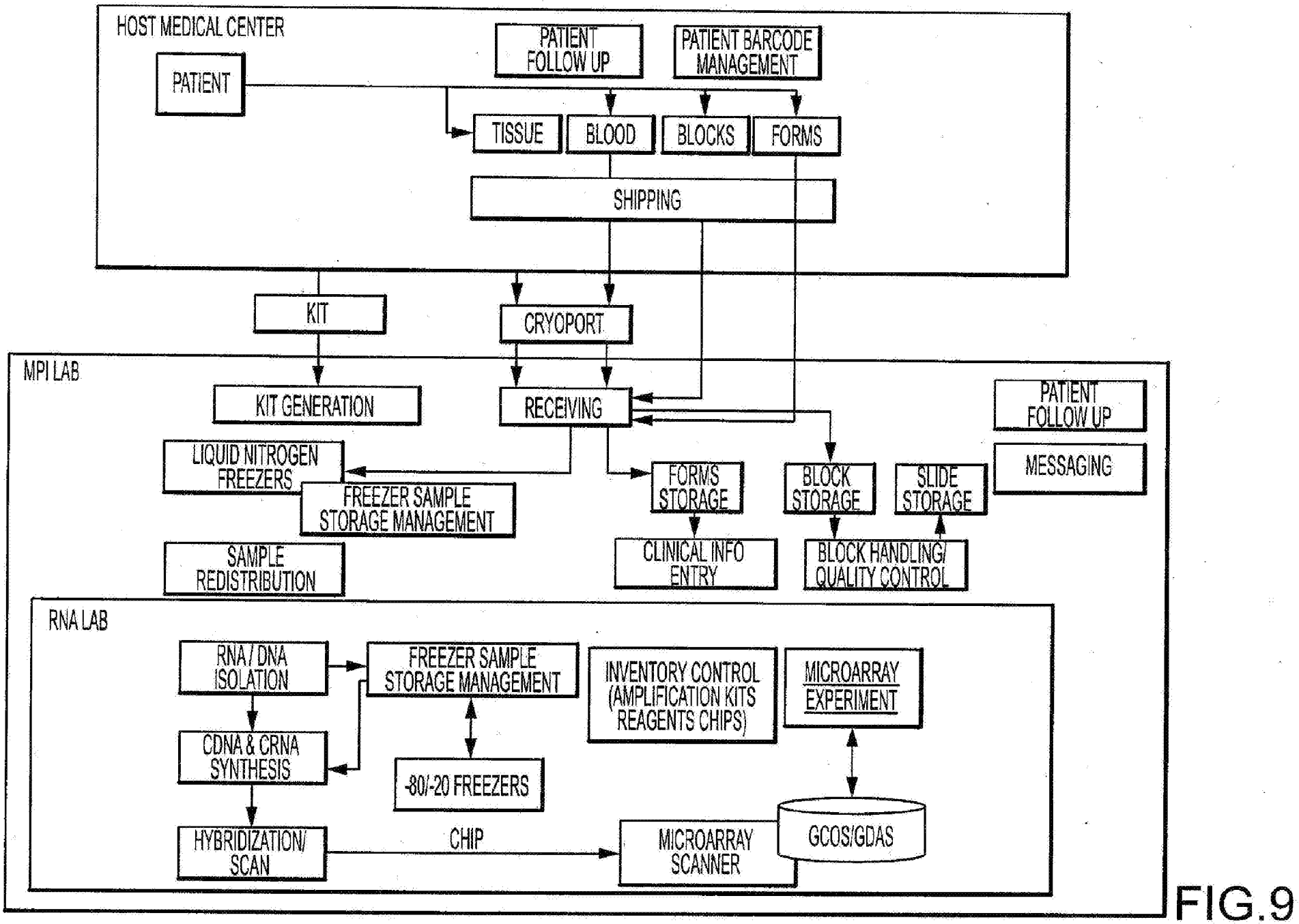

HOST MEDICAL CENTER
PATIENT
PATIENT FOLLOW UP
PATIENT BARCODE MANAGEMENT
TISSUE
BLOOD
BLOCKS
FORMS
SHIPPING
KIT
CRYOPORT
MPI LAB
KIT GENERATION
RECEIVING
PATIENT FOLLOW UP
MESSAGING
LIQUID NITROGEN FREEZERS
FREEZER SAMPLE STORAGE MANAGEMENT
FORMS STORAGE
BLOCK STORAGE
SLIDE STORAGE
SAMPLE REDISTRIBUTION
CLINICAL INFO ENTRY
BLOCK HANDLING/ QUALITY CONTROL
RNA LAB
RNA / DNA ISOLATION
FREEZER SAMPLE STORAGE MANAGEMENT
INVENTORY CONTROL (AMPLIFICATION KITS REAGENTS CHIPS)
MICROARRAY EXPERIMENT
CDNA & CRNA SYNTHESIS
-80/-20 FREEZERS
HYBRIDIZATION/ SCAN
CHIP
MICROARRAY SCANNER
GCOS/GDAS

FIG.9

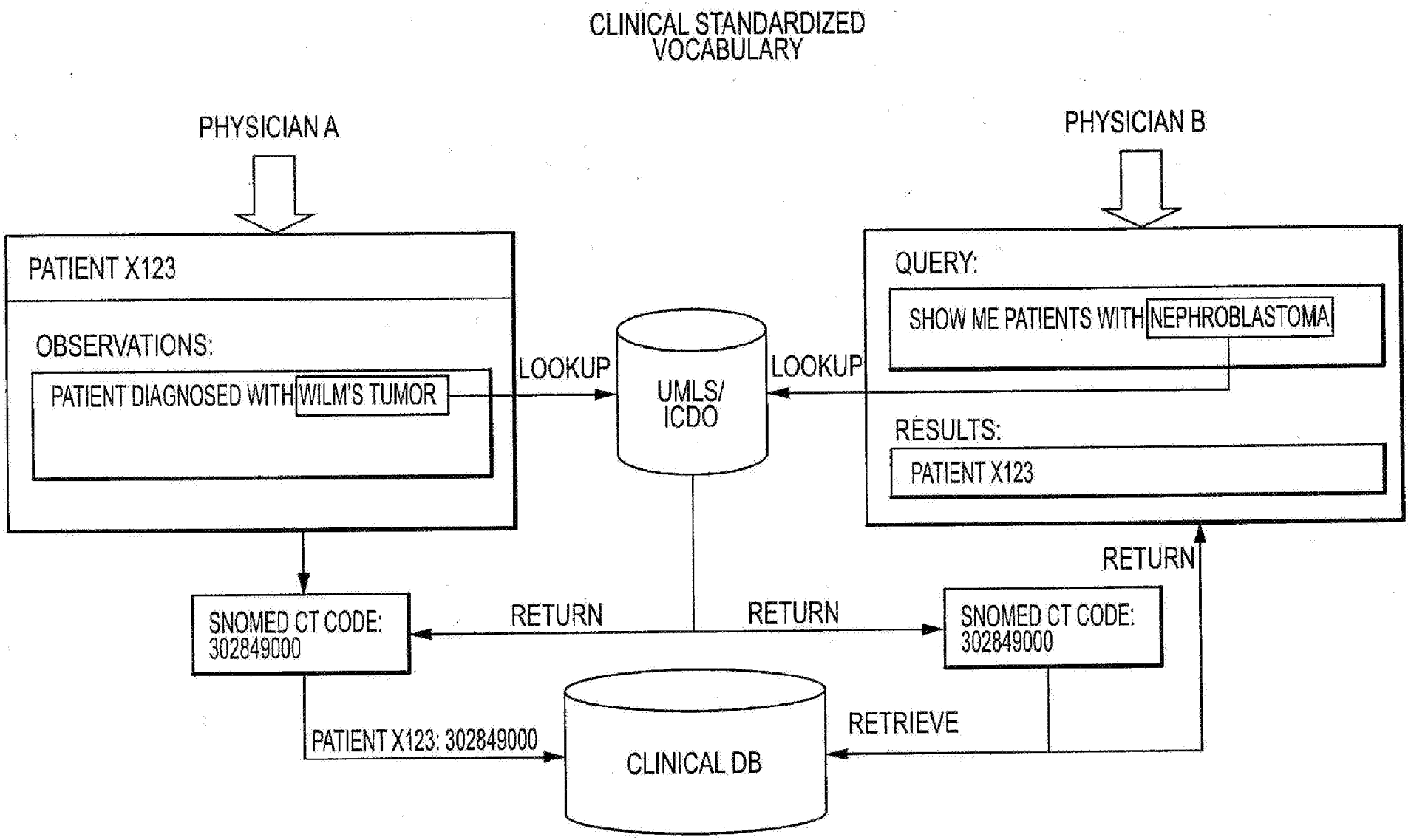

CLINICAL STANDARDIZED VOCABULARY
PHYSICIAN A
PHYSICIAN B
PATIENT X123
OBSERVATIONS:
PATIENT DIAGNOSED WITH
WILM'S TUMOR
LOOKUP
UMLS/ ICDO
LOOKUP
QUERY:
SHOW ME PATIENTS WITH
NEPHROBLASTOMA
RESULTS:
PATIENT X123
RETURN
SNOMED CT CODE: 302849000
RETURN
RETURN
SNOMED CT CODE: 302849000
PATIENT X123: 302849000
CLINICAL DB
RETRIEVE

FIG.10

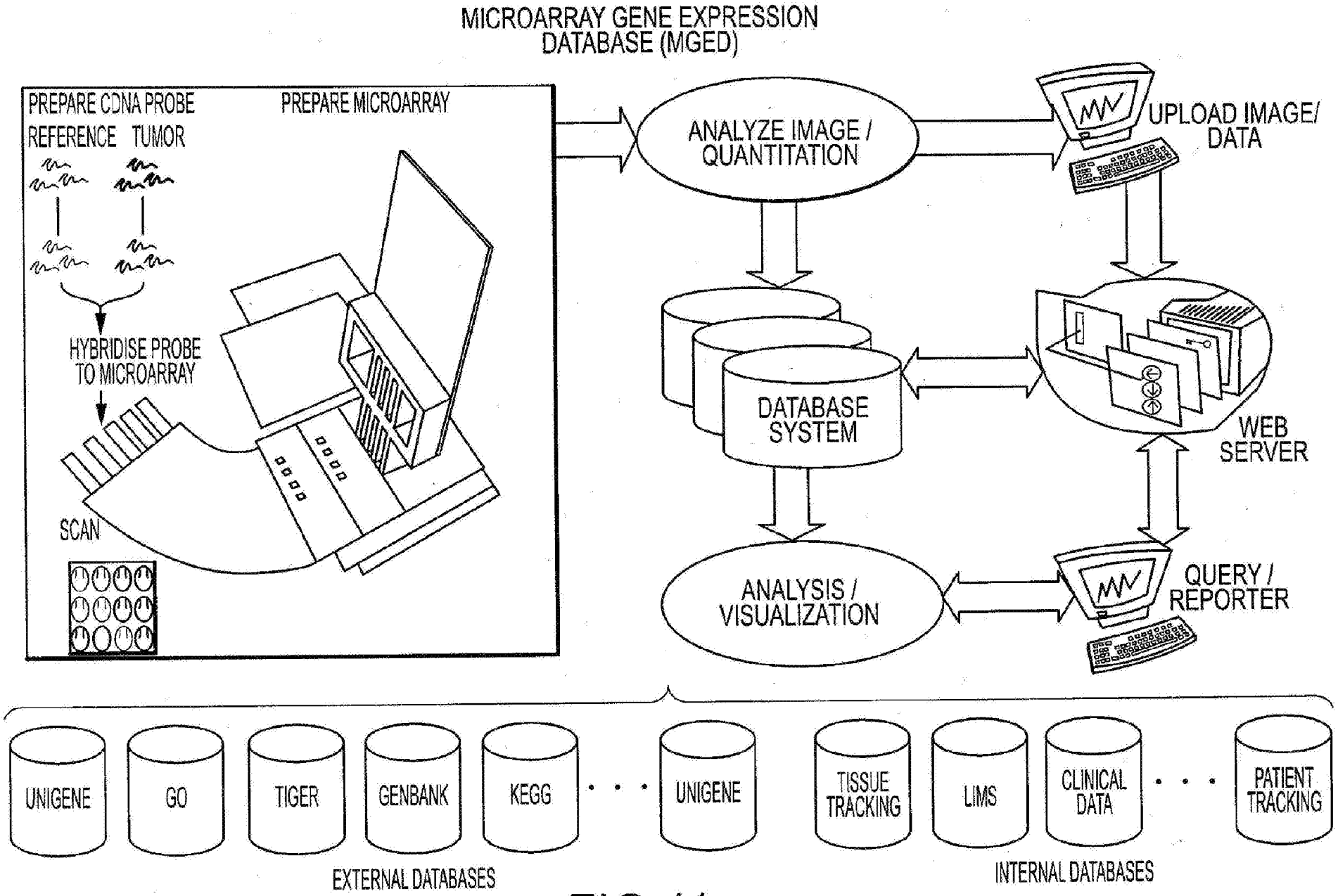

MICROARRAY GENE EXPRESSION DATABASE (MGED)
PREPARE CDNA PROBE
REFERENCE TUMOR
PREPARE MICROARRAY
HYBRIDISE PROBE TO MICROARRAY
SCAN
ANALYZE IMAGE / QUANTITATION
UPLOAD IMAGE/ DATA
DATABASE SYSTEM
WEB SERVER
ANALYSIS / VISUALIZATION
QUERY / REPORTER
UNIGENE
GO
TIGER
GENBANK
KEGG
UNIGENE
TISSUE TRACKING
LIMS
CLINICAL DATA
PATIENT TRACKING
EXTERNAL DATABASES
INTERNAL DATABASES

FIG.11

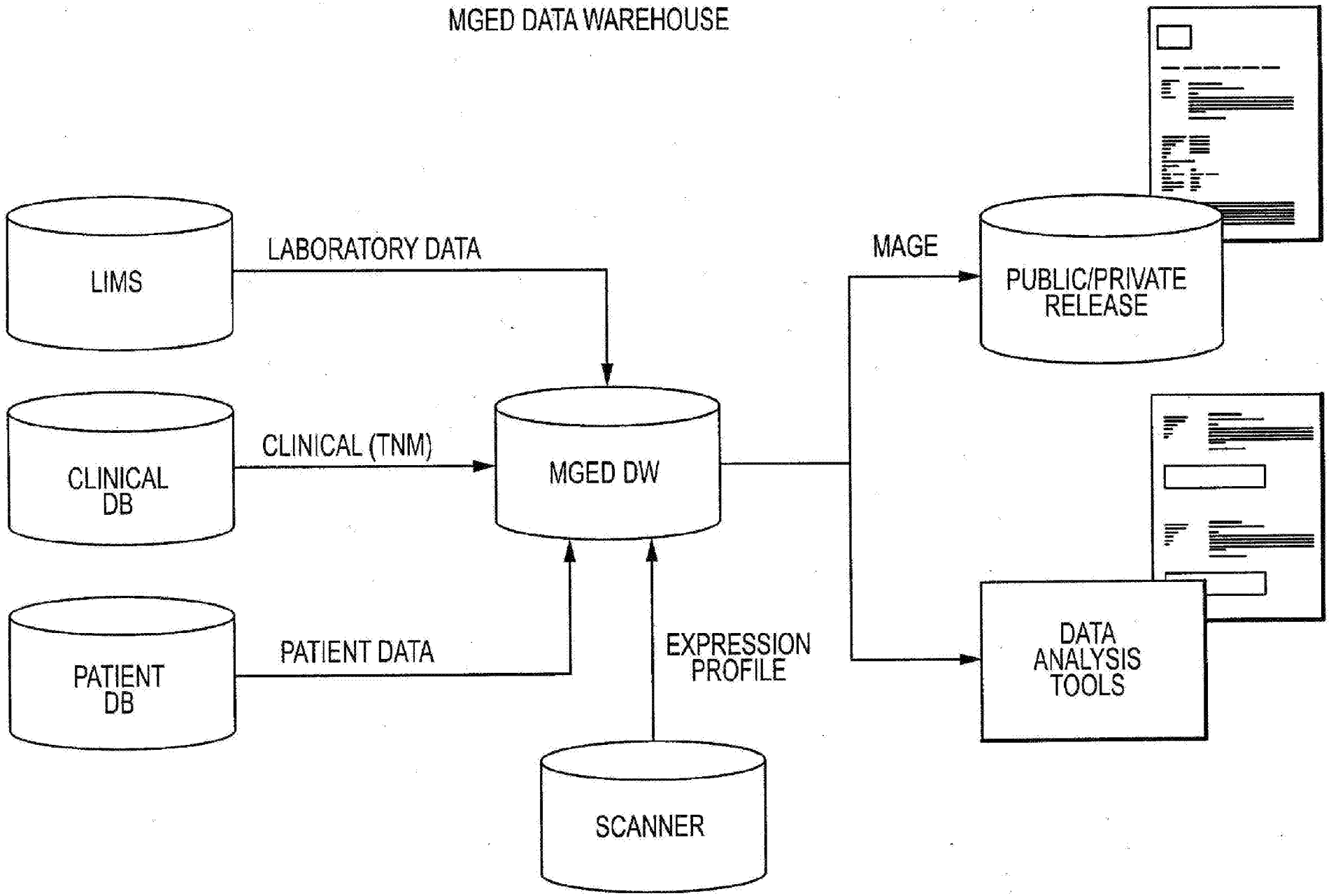

MGED DATA WAREHOUSE
LIMS
LABORATORY DATA
CLINICAL DB
CLINICAL (TNM)
PATIENT DB
PATIENT DATA
MGED DW
SCANNER
EXPRESSION PROFILE
MAGE
PUBLIC/PRIVATE RELEASE
DATA ANALYSIS TOOLS

FIG.12

WEB-BASED PERMEDEX SYSTEM (CONT.)

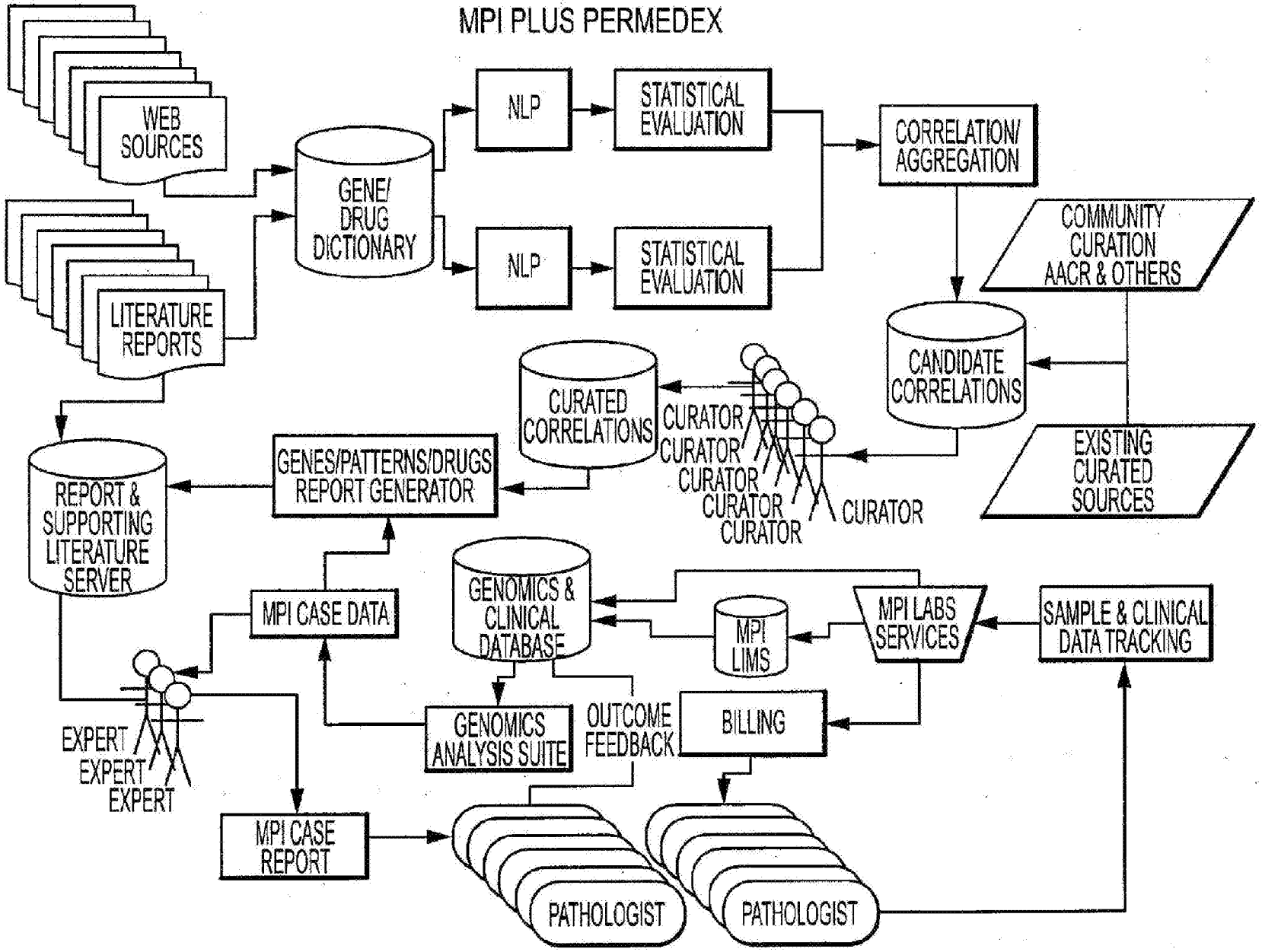


FIG.13

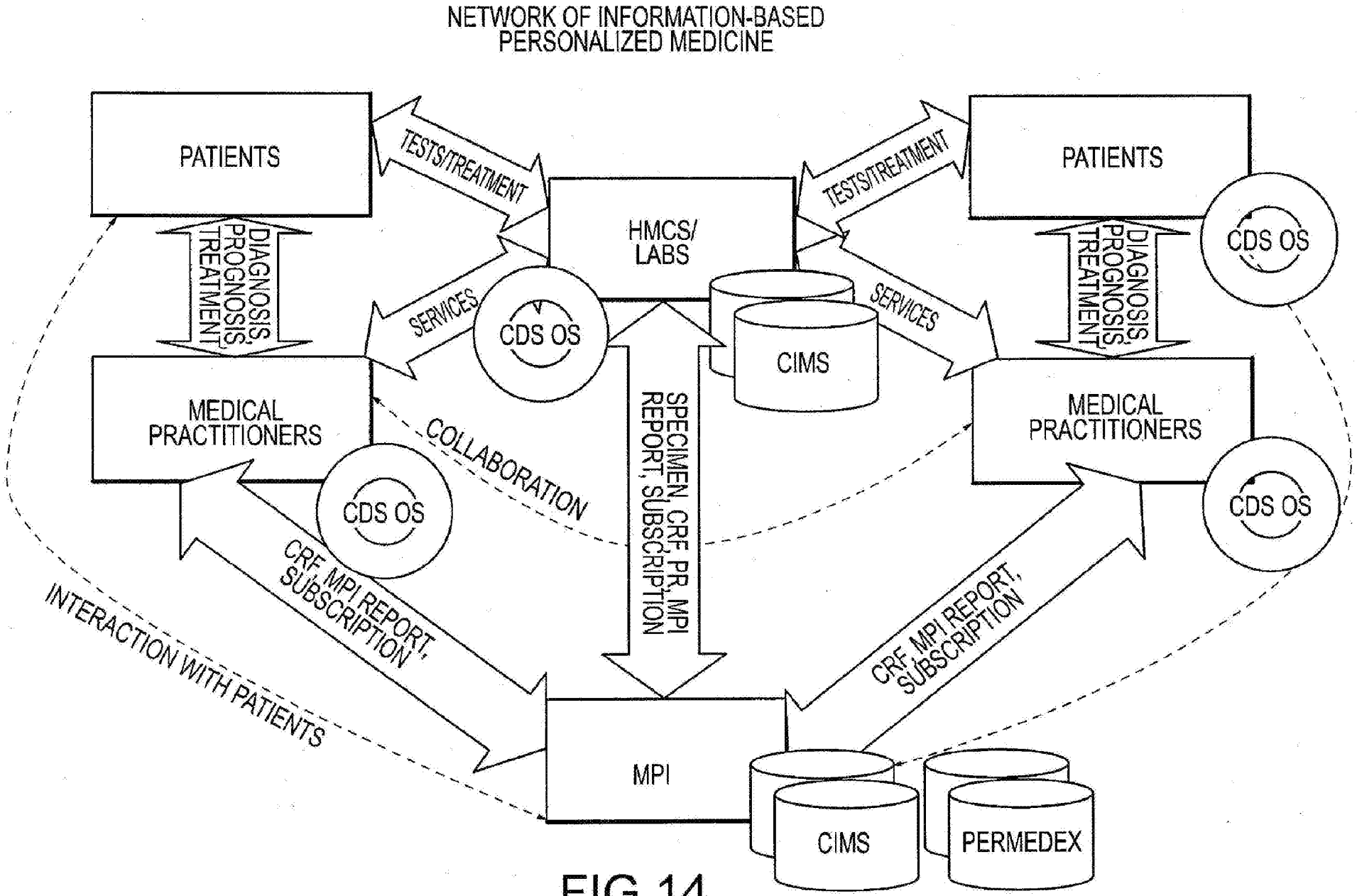

NETWORK OF INFORMATION-BASED PERSONALIZED MEDICINE
PATIENTS
TESTS/TREATMENT
HMCS/ LABS
TESTS/TREATMENT
PATIENTS
DIAGNOSIS, PROGNOSIS, TREATMENT,
CDS OS
SERVICES
CDS OS
CIMS
SERVICES
DIAGNOSIS, PROGNOSIS, TREATMENT,
CDS OS
MEDICAL PRACTITIONERS
COLLABORATION
SPECIMEN, CRF, PR, MPI REPORT, SUBSCRIPTION
MEDICAL PRACTITIONERS
CDS OS
CDS OS
CRF, MPI REPORT, SUBSCRIPTION
CRF, MPI REPORT, SUBSCRIPTION
INTERACTION WITH PATIENTS
MPI
CIMS
PERMEDEX

FIG.14

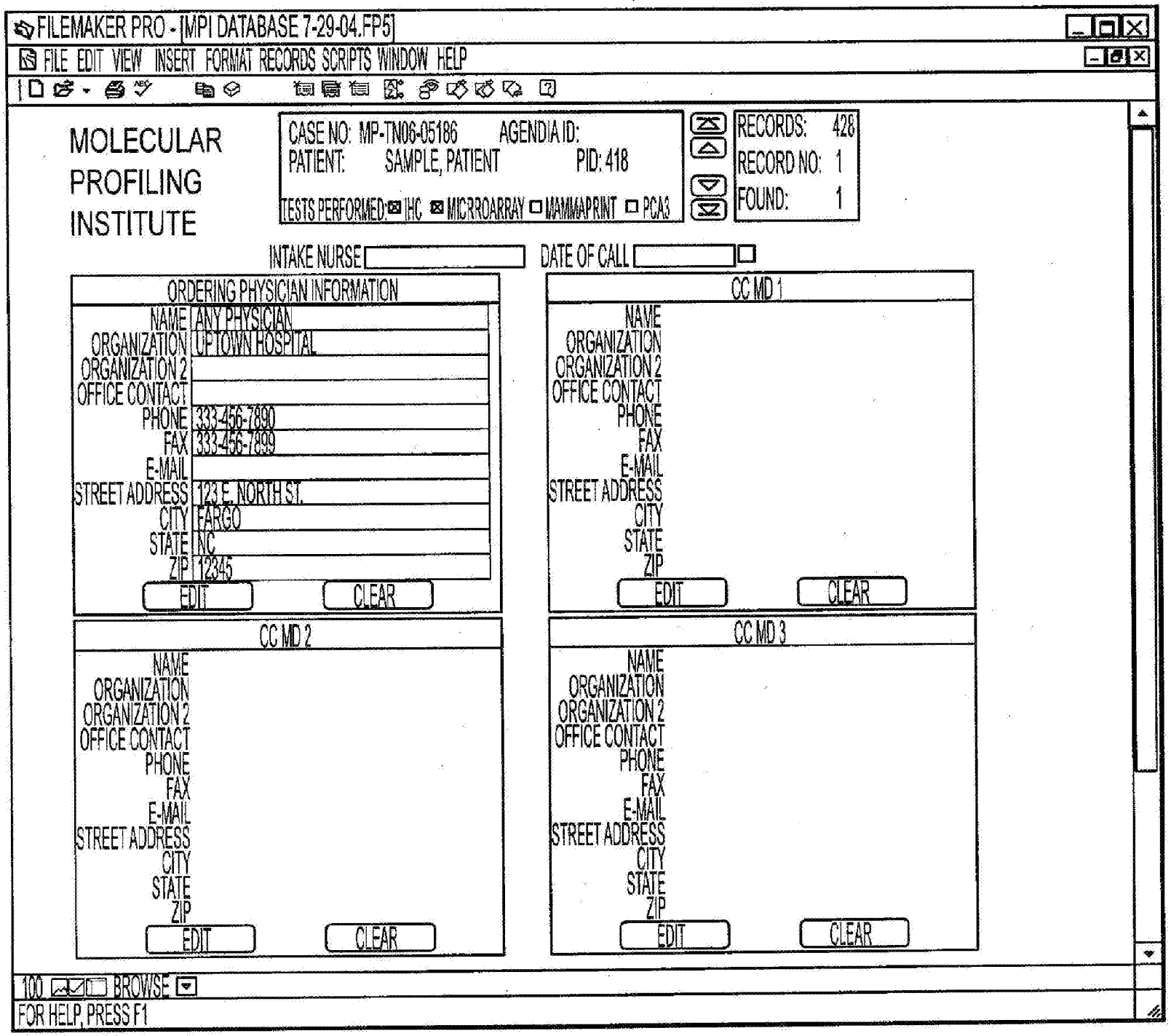

FILEMAKER PRO - [MPI DATABASE 7-29-04.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
MOLECULAR PROFILING INSTITUTE
CASE NO: MP-TN06-05186 AGENDIA ID:
PATIENT: SAMPLE, PATIENT PID: 418
TESTS PERFORMED: IHC MICRROARRAY MAMMAPRINT PCA3
RECORDS: 428
RECORD NO: 1
FOUND: 1
INTAKE NURSE
DATE OF CALL
ORDERING PHYSICIAN INFORMATION
NAME ANY PHYSICIAN
ORGANIZATION UPTOWN HOSPITAL
ORGANIZATION 2
OFFICE CONTACT
PHONE 333-456-7890
FAX 333-456-7899
E-MAIL
STREET ADDRESS 123 E. NORTH ST.
CITY FARGO
STATE NC
ZIP 12345
EDIT CLEAR
CC MD 1
NAME
ORGANIZATION
ORGANIZATION 2
OFFICE CONTACT
PHONE
FAX
E-MAIL
STREET ADDRESS
CITY
STATE
ZIP
EDIT CLEAR
CC MD 2
NAME
ORGANIZATION
ORGANIZATION 2
OFFICE CONTACT
PHONE
FAX
E-MAIL
STREET ADDRESS
CITY
STATE
ZIP
EDIT CLEAR
CC MD 3
NAME
ORGANIZATION
ORGANIZATION 2
OFFICE CONTACT
PHONE
FAX
E-MAIL
STREET ADDRESS
CITY
STATE
ZIP
EDIT CLEAR
100 BROWSE
FOR HELP, PRESS F1

FIG.15

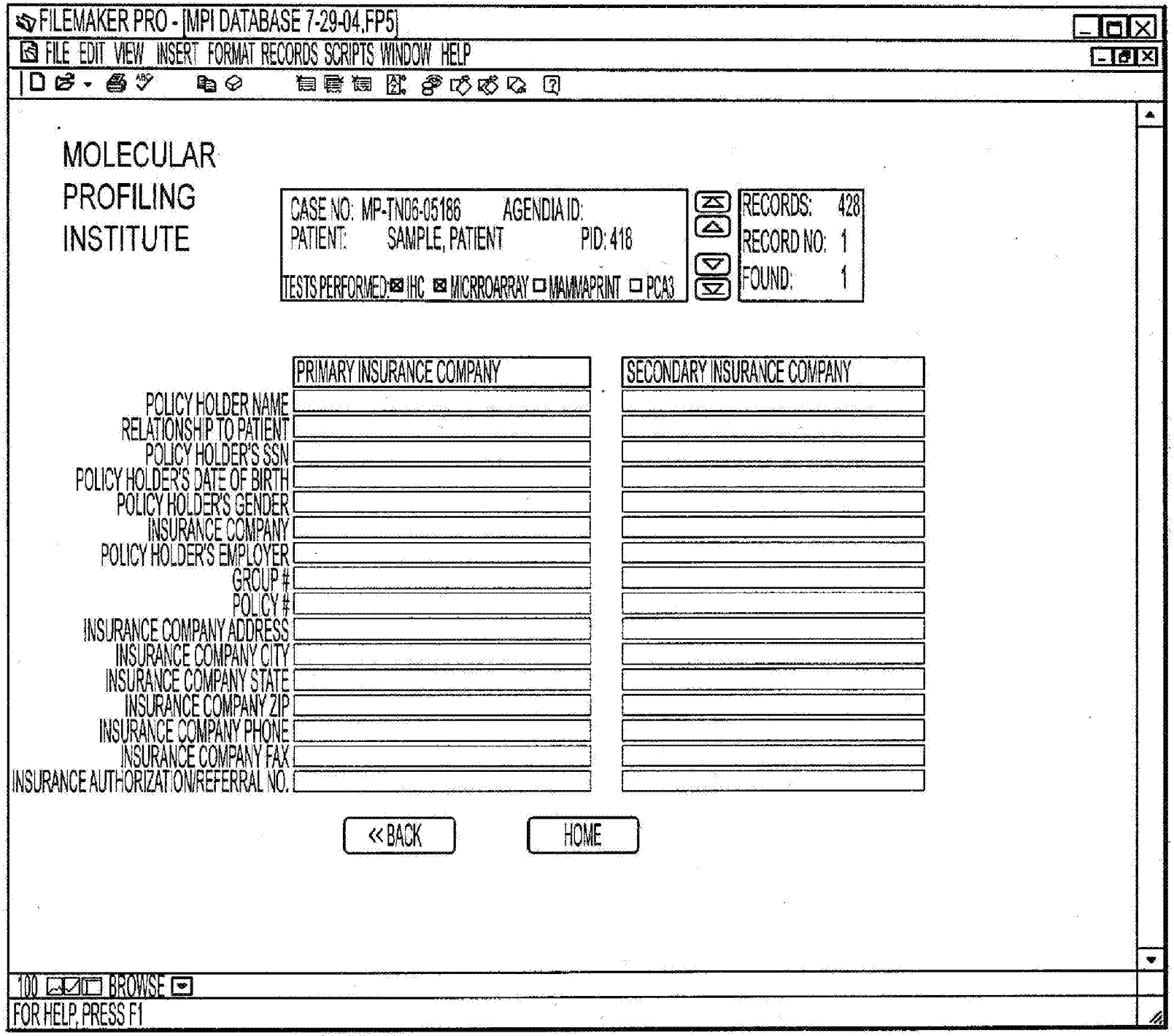

FILEMAKER PRO - [MPI DATABASE 7-29-04.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
MOLECULAR
PROFILING
INSTITUTE
CASE NO: MP-TN06-05186 AGENDIA ID:
PATIENT: SAMPLE, PATIENT PID: 418
TESTS PERFORMED: ☒ IHC ☒ MICRROARRAY ☐ MAMMAPRINT ☐ PCA3
RECORDS: 428
RECORD NO: 1
FOUND: 1
PRIMARY INSURANCE COMPANY
SECONDARY INSURANCE COMPANY
POLICY HOLDER NAME
RELATIONSHIP TO PATIENT
POLICY HOLDER'S SSN
POLICY HOLDER'S DATE OF BIRTH
POLICY HOLDER'S GENDER
INSURANCE COMPANY
POLICY HOLDER'S EMPLOYER
GROUP #
POLICY #
INSURANCE COMPANY ADDRESS
INSURANCE COMPANY CITY
INSURANCE COMPANY STATE
INSURANCE COMPANY ZIP
INSURANCE COMPANY PHONE
INSURANCE COMPANY FAX
INSURANCE AUTHORIZATION/REFERRAL NO.
<< BACK
HOME
100 BROWSE
FOR HELP, PRESS F1

FIG.16

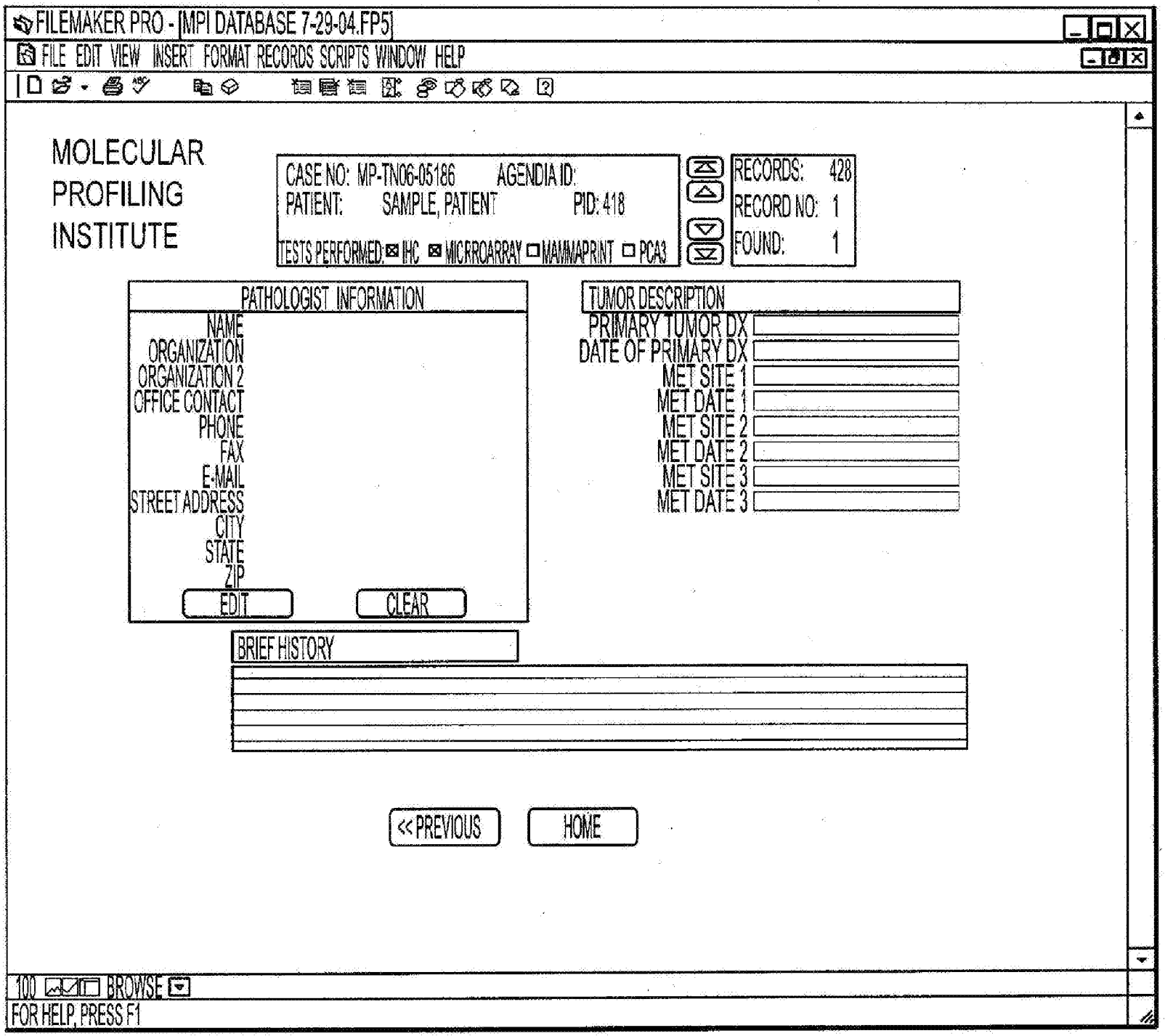

FILEMAKER PRO - [MPI DATABASE 7-29-04.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
MOLECULAR PROFILING INSTITUTE
CASE NO: MP-TN06-05186 AGENDIA ID:
PATIENT: SAMPLE, PATIENT PID: 418
TESTS PERFORMED: IHC MICRROARRAY MAMMAPRINT PCA3
RECORDS: 428
RECORD NO: 1
FOUND: 1
PATHOLOGIST INFORMATION
NAME
ORGANIZATION
ORGANIZATION 2
OFFICE CONTACT
PHONE
FAX
E-MAIL
STREET ADDRESS
CITY
STATE
ZIP
EDIT
CLEAR
TUMOR DESCRIPTION
PRIMARY TUMOR DX
DATE OF PRIMARY DX
MET SITE 1
MET DATE 1
MET SITE 2
MET DATE 2
MET SITE 3
MET DATE 3
BRIEF HISTORY
<<PREVIOUS
HOME
100 BROWSE
FOR HELP, PRESS F1

FIG.17

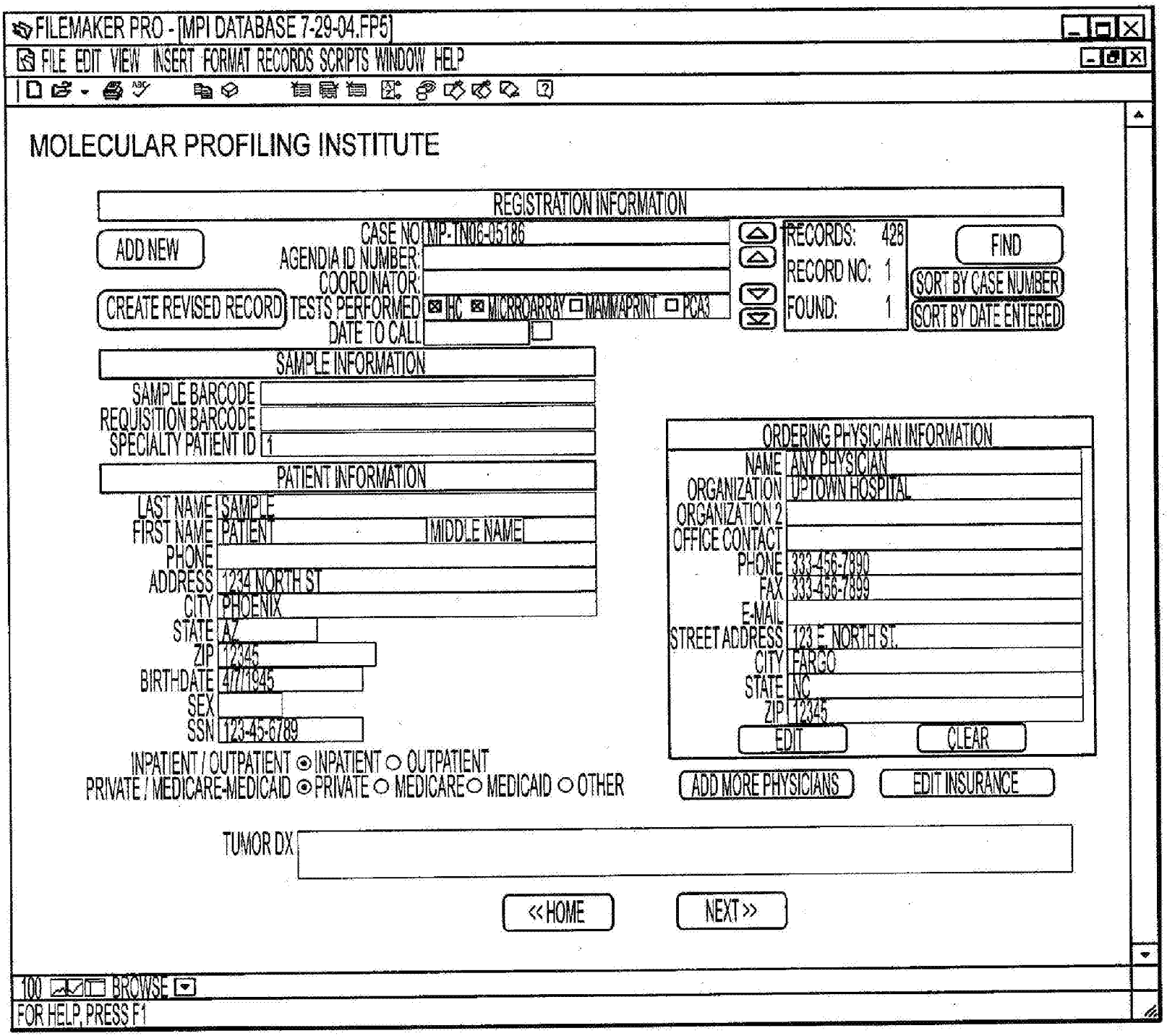

FILEMAKER PRO - [MPI DATABASE 7-29-04.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
MOLECULAR PROFILING INSTITUTE
REGISTRATION INFORMATION
ADD NEW
CASE NO: MP-TN06-05186
AGENDIA ID NUMBER:
COORDINATOR:
CREATE REVISED RECORD
TESTS PERFORMED: IHC MICRROARRAY MAMMAPRINT PCA3
DATE TO CALL:
RECORDS: 428
RECORD NO: 1
FOUND: 1
FIND
SORT BY CASE NUMBER
SORT BY DATE ENTERED
SAMPLE INFORMATION
SAMPLE BARCODE:
REQUISITION BARCODE:
SPECIALTY PATIENT ID: 1
PATIENT INFORMATION
LAST NAME: SAMPLE
FIRST NAME: PATIENT
MIDDLE NAME:
PHONE:
ADDRESS: 1234 NORTH ST
CITY: PHOENIX
STATE: AZ
ZIP: 12345
BIRTHDATE: 4/7/1945
SEX:
SSN: 123-45-6789
INPATIENT / OUTPATIENT: INPATIENT OUTPATIENT
PRIVATE / MEDICARE-MEDICAID: PRIVATE MEDICARE MEDICAID OTHER
ORDERING PHYSICIAN INFORMATION
NAME: ANY PHYSICIAN
ORGANIZATION: UPTOWN HOSPITAL
ORGANIZATION 2:
OFFICE CONTACT:
PHONE: 333-456-7890
FAX: 333-456-7899
E-MAIL:
STREET ADDRESS: 123 E. NORTH ST.
CITY: FARGO
STATE: NC
ZIP: 12345
EDIT
CLEAR
ADD MORE PHYSICIANS
EDIT INSURANCE
TUMOR DX:
<<HOME
NEXT >>
100 BROWSE
FOR HELP, PRESS F1

FIG.18

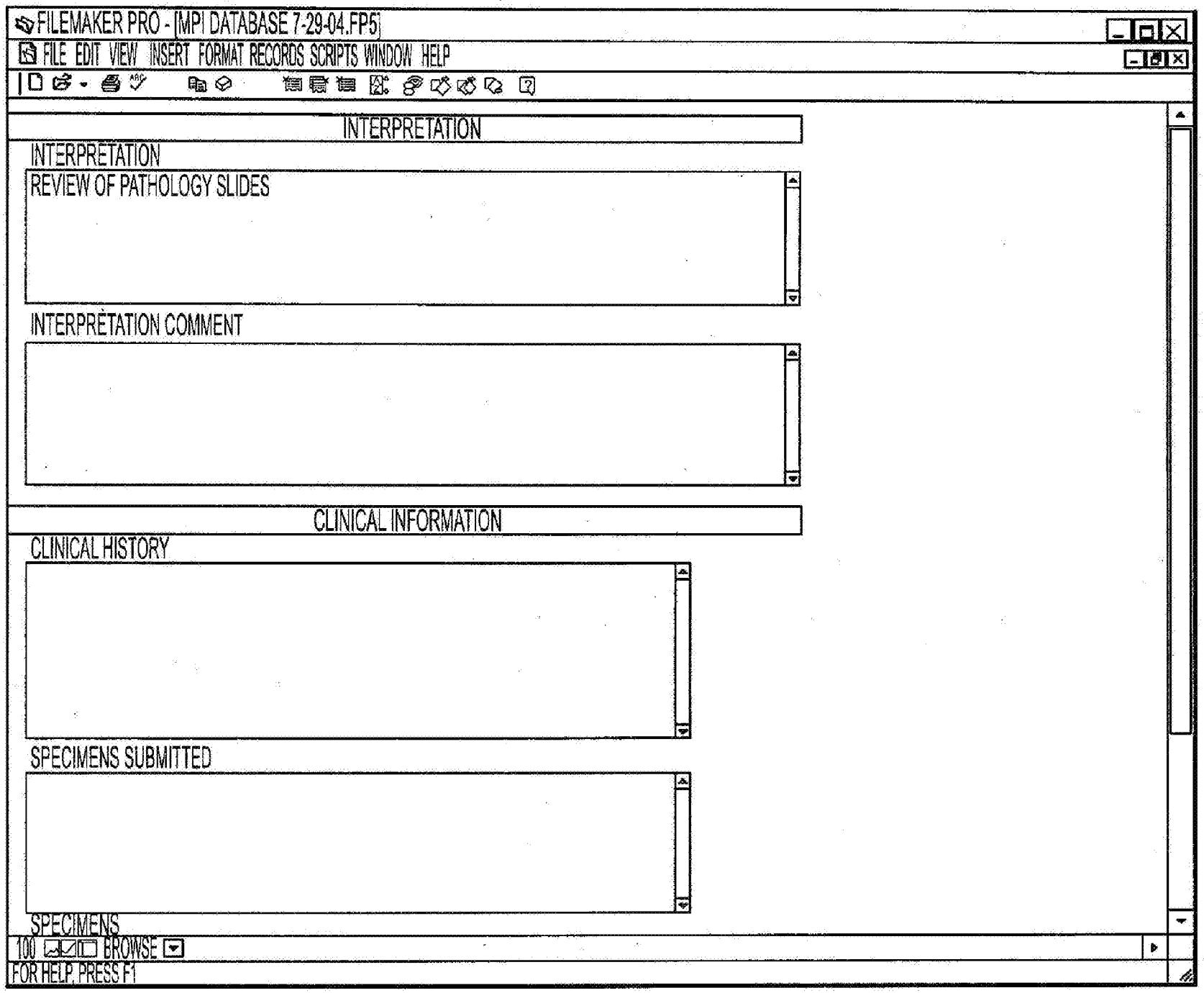
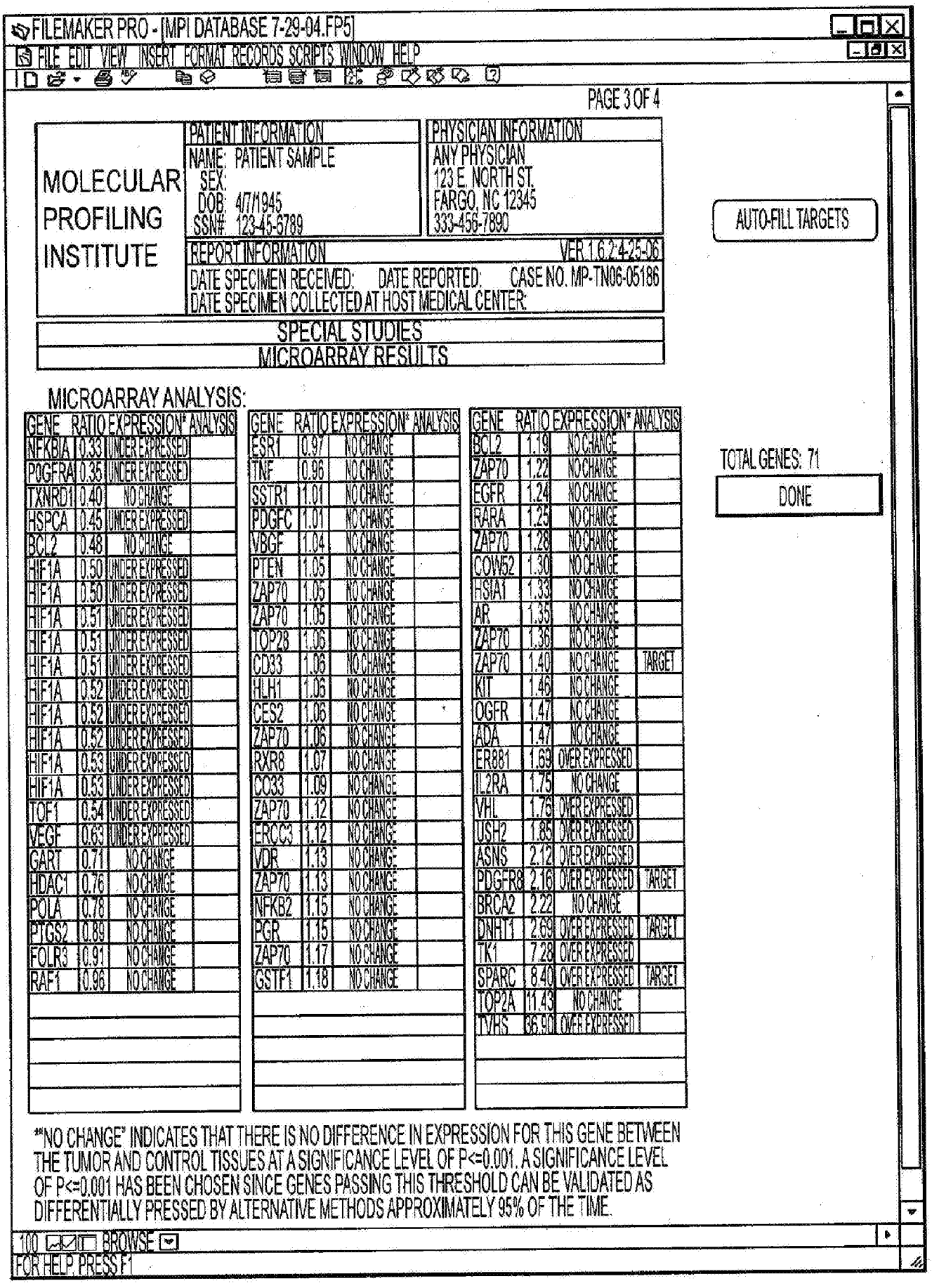

FILEMAKER PRO - [MPI DATABASE 7-29-04.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
INTERPRETATION
INTERPRETATION
REVIEW OF PATHOLOGY SLIDES
INTERPRETATION COMMENT
CLINICAL INFORMATION
CLINICAL HISTORY
SPECIMENS SUBMITTED
SPECIMENS
100 BROWSE
FOR HELP, PRESS F1

FIG.19



GENE	RATIO	EXPRESSION*	ANALYSIS
NFKBIA	0.33	UNDER EXPRESSED	
PDGFRA	0.35	UNDER EXPRESSED	
TXNRD1	0.40	NO CHANGE	
HSPCA	0.45	UNDER EXPRESSED	
BCL2	0.48	NO CHANGE	
HIF1A	0.50	UNDER EXPRESSED	
HIF1A	0.50	UNDER EXPRESSED	
HIF1A	0.51	UNDER EXPRESSED	
HIF1A	0.51	UNDER EXPRESSED	
HIF1A	0.51	UNDER EXPRESSED	
HIF1A	0.52	UNDER EXPRESSED	
HIF1A	0.52	UNDER EXPRESSED	
HIF1A	0.52	UNDER EXPRESSED	
HIF1A	0.53	UNDER EXPRESSED	
HIF1A	0.53	UNDER EXPRESSED	
TOP1	0.54	UNDER EXPRESSED	
VEGF	0.63	UNDER EXPRESSED	
GART	0.71	NO CHANGE	
HDAC1	0.76	NO CHANGE	
POLA	0.78	NO CHANGE	
PTGS2	0.89	NO CHANGE	
FOLR3	0.91	NO CHANGE	
RAF1	0.96	NO CHANGE	

GENE	RATIO	EXPRESSION*	ANALYSIS
ESR1	0.97	NO CHANGE	
TNF	0.96	NO CHANGE	
SSTR1	1.01	NO CHANGE	
PDGFC	1.01	NO CHANGE	
VBGF	1.04	NO CHANGE	
PTEN	1.05	NO CHANGE	
ZAP70	1.05	NO CHANGE	
ZAP70	1.05	NO CHANGE	
TOP2B	1.06	NO CHANGE	
CD33	1.06	NO CHANGE	
HLH1	1.06	NO CHANGE	
CES2	1.06	NO CHANGE	
ZAP70	1.06	NO CHANGE	
RXR8	1.07	NO CHANGE	
CO33	1.09	NO CHANGE	
ZAP70	1.12	NO CHANGE	
ERCC3	1.12	NO CHANGE	
VDR	1.13	NO CHANGE	
ZAP70	1.13	NO CHANGE	
NFKB2	1.15	NO CHANGE	
PGR	1.15	NO CHANGE	
ZAP70	1.17	NO CHANGE	
GSTF1	1.18	NO CHANGE	

GENE	RATIO	EXPRESSION*	ANALYSIS
BCL2	1.19	NO CHANGE	
ZAP70	1.22	NO CHANGE	
EGFR	1.24	NO CHANGE	
RARA	1.25	NO CHANGE	
ZAP70	1.28	NO CHANGE	
COX52	1.30	NO CHANGE	
HSIA1	1.33	NO CHANGE	
AR	1.35	NO CHANGE	
ZAP70	1.36	NO CHANGE	
ZAP70	1.40	NO CHANGE	TARGET
KIT	1.46	NO CHANGE	
OGFR	1.47	NO CHANGE	
ADA	1.47	NO CHANGE	
ER881	1.69	OVER EXPRESSED	
IL2RA	1.75	NO CHANGE	
VHL	1.76	OVER EXPRESSED	
USH2	1.85	OVER EXPRESSED	
ASNS	2.12	OVER EXPRESSED	
PDGFR8	2.16	OVER EXPRESSED	TARGET
BRCA2	2.22	NO CHANGE	
DNHT1	2.69	OVER EXPRESSED	TARGET
TK1	7.28	OVER EXPRESSED	
SPARC	8.40	OVER EXPRESSED	TARGET
TOP2A	11.43	NO CHANGE	
TYMS	86.90	OVER EXPRESSED	

FIG.20

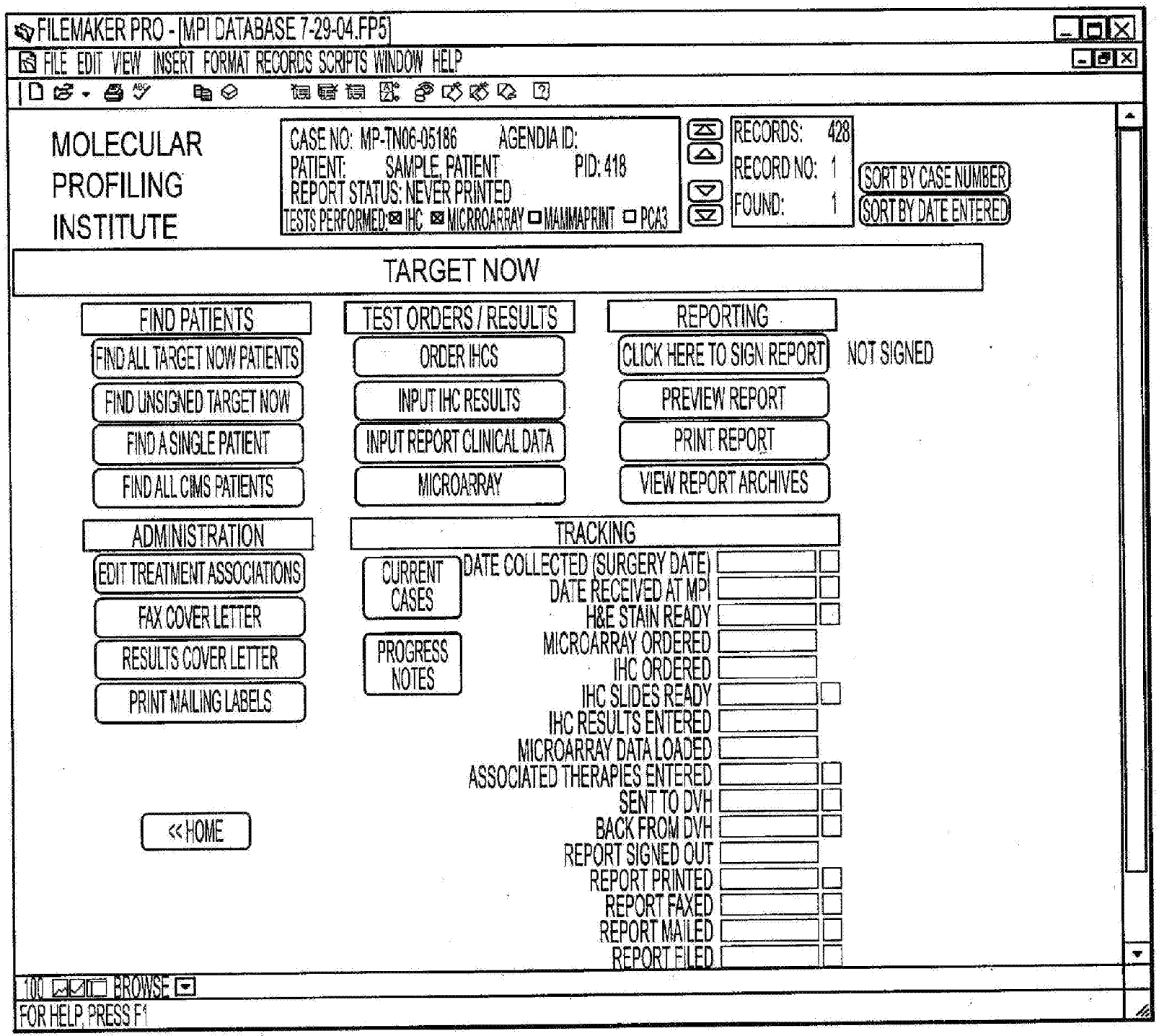

FILEMAKER PRO - [MPI DATABASE 7-29-04.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
MOLECULAR PROFILING INSTITUTE
CASE NO: MP-TN06-05186 AGENDIA ID:
PATIENT: SAMPLE, PATIENT PID: 418
REPORT STATUS: NEVER PRINTED
TESTS PERFORMED: IHC MICRROARRAY MAMMAPRINT PCA3
RECORDS: 428
RECORD NO: 1
FOUND: 1
SORT BY CASE NUMBER
SORT BY DATE ENTERED
TARGET NOW
FIND PATIENTS
FIND ALL TARGET NOW PATIENTS
FIND UNSIGNED TARGET NOW
FIND A SINGLE PATIENT
FIND ALL CIMS PATIENTS
TEST ORDERS / RESULTS
ORDER IHCS
INPUT IHC RESULTS
INPUT REPORT CLINICAL DATA
MICROARRAY
REPORTING
CLICK HERE TO SIGN REPORT
NOT SIGNED
PREVIEW REPORT
PRINT REPORT
VIEW REPORT ARCHIVES
ADMINISTRATION
EDIT TREATMENT ASSOCIATIONS
FAX COVER LETTER
RESULTS COVER LETTER
PRINT MAILING LABELS
TRACKING
CURRENT CASES
PROGRESS NOTES
DATE COLLECTED (SURGERY DATE)
DATE RECEIVED AT MPI
H&E STAIN READY
MICROARRAY ORDERED
IHC ORDERED
IHC SLIDES READY
IHC RESULTS ENTERED
MICROARRAY DATA LOADED
ASSOCIATED THERAPIES ENTERED
SENT TO DVH
BACK FROM DVH
REPORT SIGNED OUT
REPORT PRINTED
REPORT FAXED
REPORT MAILED
REPORT FILED
<< HOME
100 BROWSE
FOR HELP, PRESS F1

FIG.21

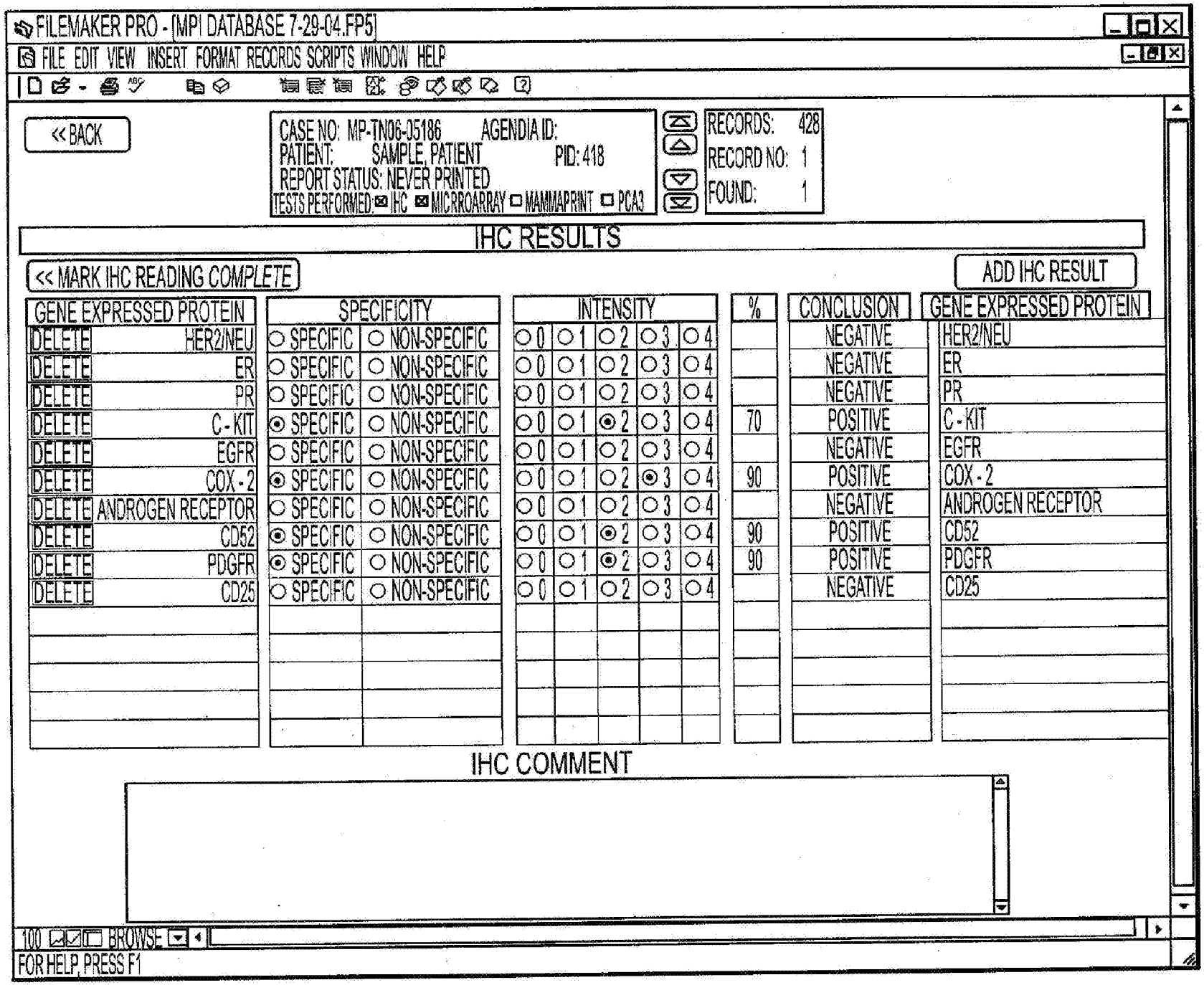

FILEMAKER PRO - [MPI DATABASE 7-29-04.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
<<BACK
CASE NO: MP-TN06-05186 AGENDIA ID:
PATIENT: SAMPLE, PATIENT PID: 418
REPORT STATUS: NEVER PRINTED
TESTS PERFORMED: IHC MICRROARRAY MAMMAPRINT PCA3
RECORDS: 428
RECORD NO: 1
FOUND: 1
IHC RESULTS
<< MARK IHC READING COMPLETE
ADD IHC RESULT
GENE EXPRESSED PROTEIN | SPECIFICITY | INTENSITY | % | CONCLUSION | GENE EXPRESSED PROTEIN
DELETE HER2/NEU | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | | NEGATIVE | HER2/NEU
DELETE ER | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | | NEGATIVE | ER
DELETE PR | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | | NEGATIVE | PR
DELETE C-KIT | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | 70 | POSITIVE | C-KIT
DELETE EGFR | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | | NEGATIVE | EGFR
DELETE COX-2 | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | 90 | POSITIVE | COX-2
DELETE ANDROGEN RECEPTOR | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | | NEGATIVE | ANDROGEN RECEPTOR
DELETE CD52 | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | 90 | POSITIVE | CD52
DELETE PDGFR | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | 90 | POSITIVE | PDGFR
DELETE CD25 | SPECIFIC NON-SPECIFIC | 0 1 2 3 4 | | NEGATIVE | CD25
IHC COMMENT
100 BROWSE
FOR HELP, PRESS F1

FIG.22

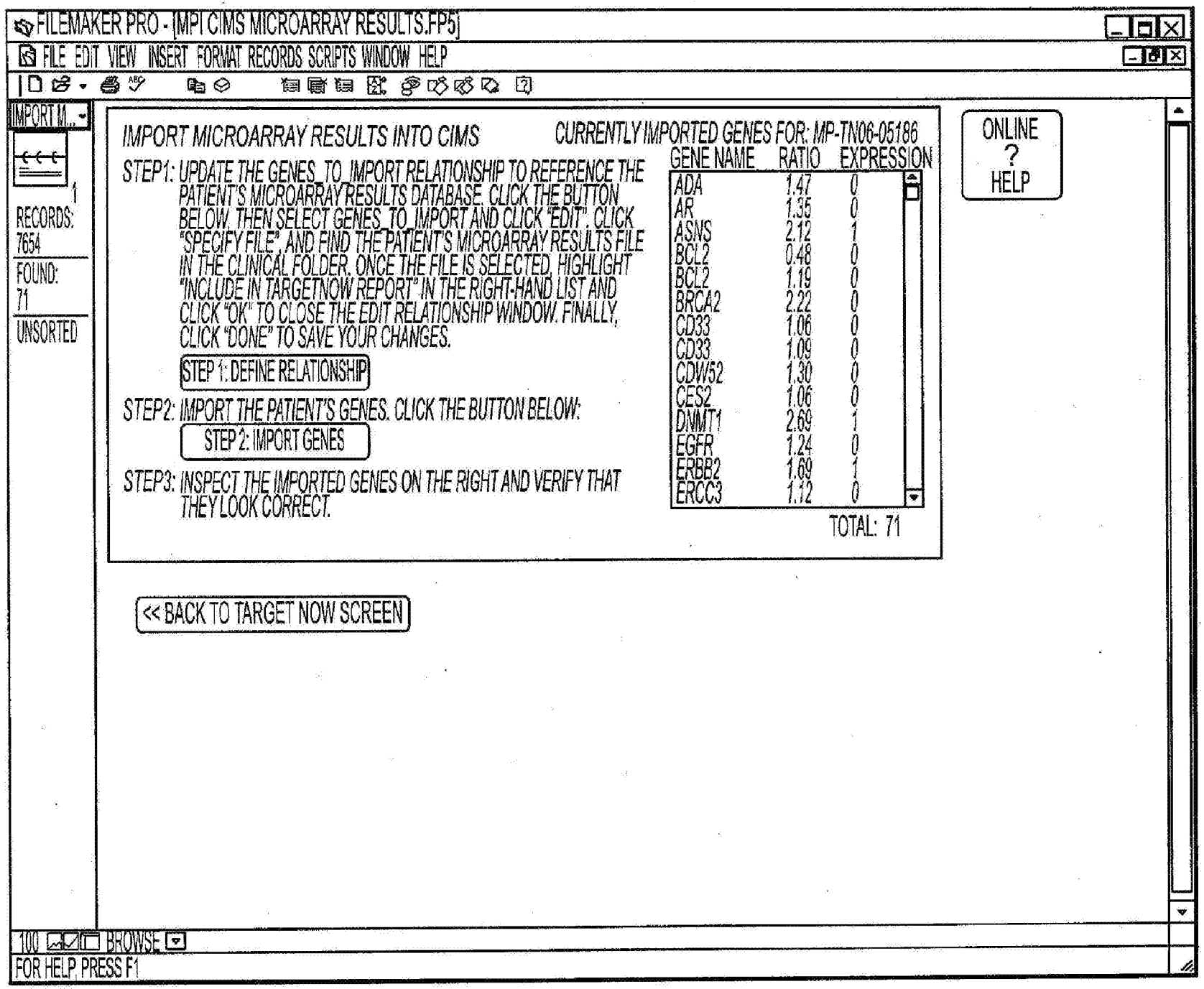

FILEMAKER PRO - [MPI CIMS MICROARRAY RESULTS.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
IMPORT M...
1
RECORDS: 7654
FOUND: 71
UNSORTED
IMPORT MICROARRAY RESULTS INTO CIMS
STEP1: UPDATE THE GENES_TO_IMPORT RELATIONSHIP TO REFERENCE THE PATIENT'S MICROARRAY RESULTS DATABASE. CLICK THE BUTTON BELOW, THEN SELECT GENES_TO_IMPORT AND CLICK "EDIT". CLICK "SPECIFY FILE", AND FIND THE PATIENT'S MICROARRAY RESULTS FILE IN THE CLINICAL FOLDER. ONCE THE FILE IS SELECTED, HIGHLIGHT "INCLUDE IN TARGETNOW REPORT" IN THE RIGHT-HAND LIST AND CLICK "OK" TO CLOSE THE EDIT RELATIONSHIP WINDOW. FINALLY, CLICK "DONE" TO SAVE YOUR CHANGES.
STEP 1: DEFINE RELATIONSHIP
STEP2: IMPORT THE PATIENT'S GENES. CLICK THE BUTTON BELOW:
STEP 2: IMPORT GENES
STEP3: INSPECT THE IMPORTED GENES ON THE RIGHT AND VERIFY THAT THEY LOOK CORRECT.
CURRENTLY IMPORTED GENES FOR: MP-TN06-05186
GENE NAME RATIO EXPRESSION
ADA 1.47 0
AR 1.35 0
ASNS 2.12 1
BCL2 0.48 0
BCL2 1.19 0
BRCA2 2.22 0
CD33 1.06 0
CD33 1.09 0
CDW52 1.30 0
CES2 1.06 0
DNMT1 2.69 1
EGFR 1.24 0
ERBB2 1.69 1
ERCC3 1.12 0
TOTAL: 71
ONLINE ? HELP
<< BACK TO TARGET NOW SCREEN
100 BROWSE
FOR HELP, PRESS F1

FIG.23

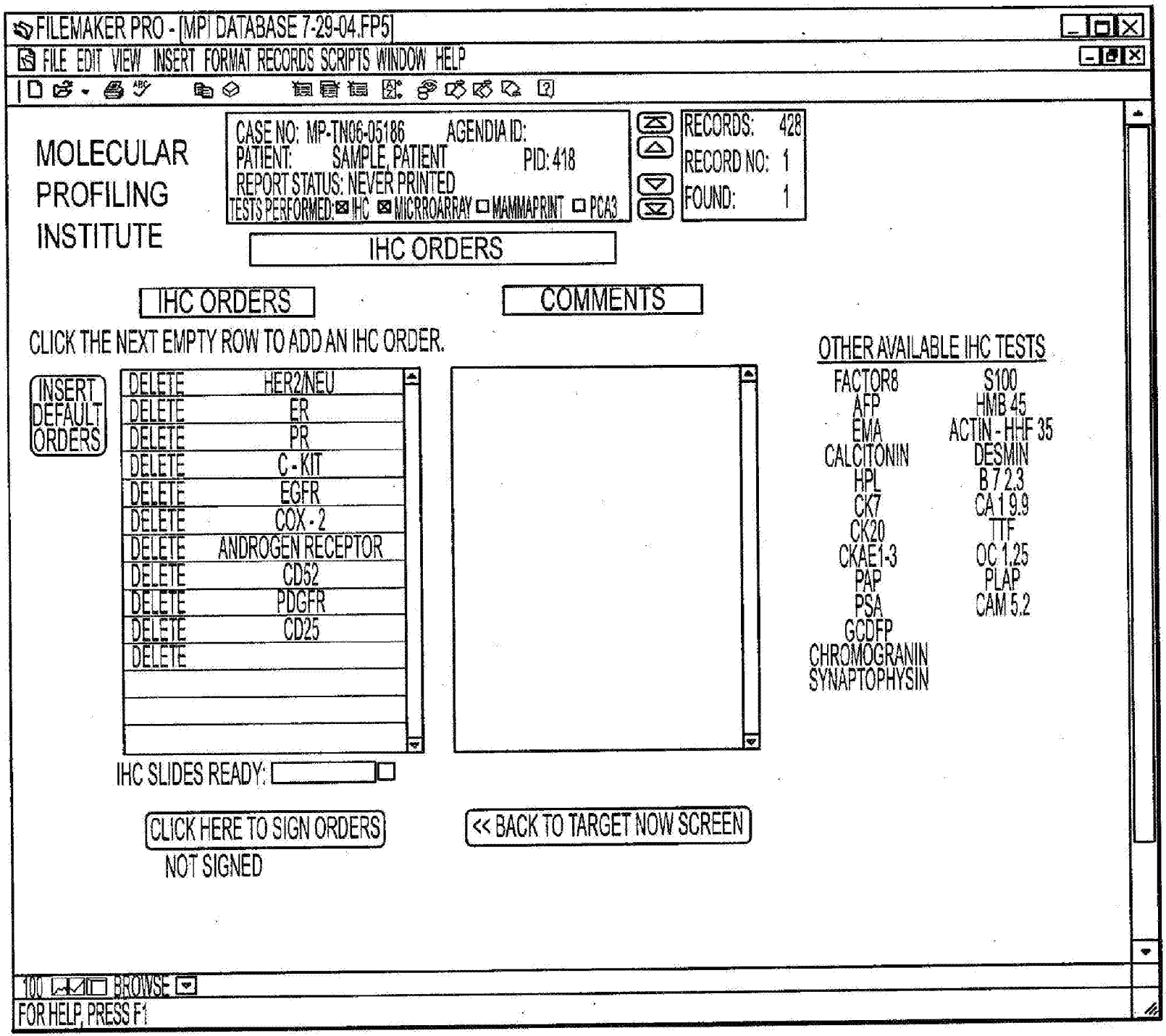

FILEMAKER PRO - [MP] DATABASE 7-29-04.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
MOLECULAR PROFILING INSTITUTE
CASE NO: MP-TN06-05186 AGENDIA ID:
PATIENT: SAMPLE, PATIENT PID: 418
REPORT STATUS: NEVER PRINTED
TESTS PERFORMED: ☒ IHC ☒ MICRROARRAY ☐ MAMMAPRINT ☐ PCA3
RECORDS: 428
RECORD NO: 1
FOUND: 1
IHC ORDERS
IHC ORDERS
COMMENTS
CLICK THE NEXT EMPTY ROW TO ADD AN IHC ORDER.
INSERT DEFAULT ORDERS
DELETE HER2/NEU
DELETE ER
DELETE PR
DELETE C-KIT
DELETE EGFR
DELETE COX-2
DELETE ANDROGEN RECEPTOR
DELETE CD52
DELETE PDGFR
DELETE CD25
DELETE
IHC SLIDES READY:
CLICK HERE TO SIGN ORDERS
NOT SIGNED
<< BACK TO TARGET NOW SCREEN
OTHER AVAILABLE IHC TESTS
FACTOR8
AFP
EMA
CALCITONIN
HPL
CK7
CK20
CKAE1-3
PAP
PSA
GCDFP
CHROMOGRANIN
SYNAPTOPHYSIN
S100
HMB 45
ACTIN - HHF 35
DESMIN
B 72.3
CA 19.9
TTF
OC 1.25
PLAP
CAM 5.2
100 BROWSE
FOR HELP, PRESS F1

FIG.24

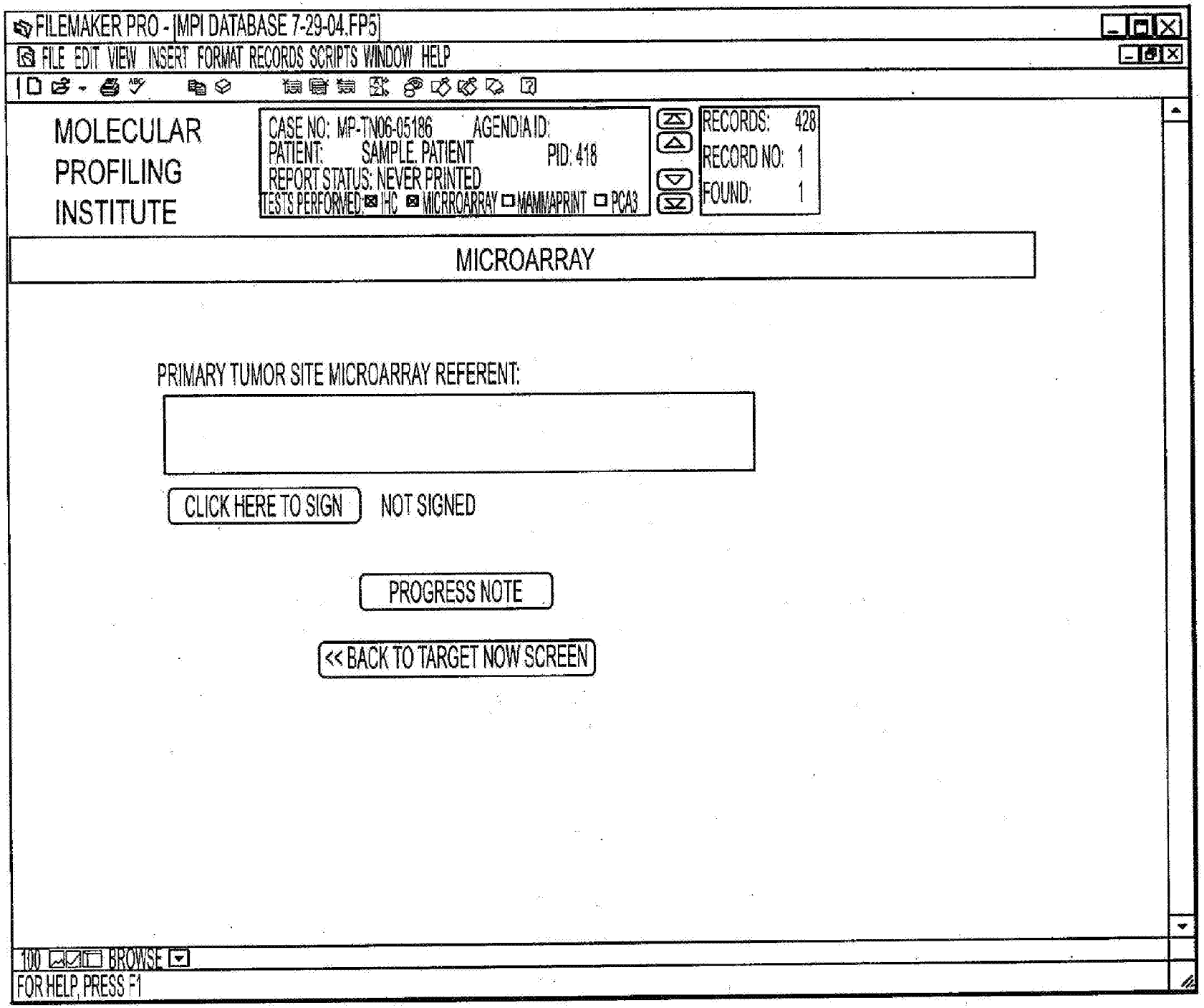

FILEMAKER PRO - [MPI DATABASE 7-29-04.FP5]
FILE EDIT VIEW INSERT FORMAT RECORDS SCRIPTS WINDOW HELP
MOLECULAR
PROFILING
INSTITUTE
CASE NO: MP-TN06-05186 AGENDA ID:
PATIENT: SAMPLE, PATIENT PID: 418
REPORT STATUS: NEVER PRINTED
TESTS PERFORMED: ☒ IHC ☒ MICRROARRAY ☐ MAMMAPRINT ☐ PCA3
RECORDS: 428
RECORD NO: 1
FOUND: 1
MICROARRAY
PRIMARY TUMOR SITE MICROARRAY REFERENT:
CLICK HERE TO SIGN
NOT SIGNED
PROGRESS NOTE
<< BACK TO TARGET NOW SCREEN
100 BROWSE
FOR HELP, PRESS F1

FIG.25

FIG. 26A

	Tumor Type											
	Adipose (13)		Adipose tissue, if not available use fibroblast (1)		Adrenal Cortex (18)		Adrenal Gland (1)		Adrenal Gland – Medulla (15)		Appendix (5)	
IHC	biomarker flagged as target	tumor type	biomarker flagged as target	tumor type	biomarker flagged as target	tumor type	biomarker flagged as target	tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	tumor type
Androgen Receptor		0.0%		0.0%	1	1.79%		0.00%	1	2.22%		0.00%
c-kit	3	10.0%		0.0%	4	7.14%		0.00%	7	15.56%	1	8.33%
CD25		0.0%		0.0%		0.00%		0.00%		0.00%		0.00%
CD52		0.0%		0.0%	1	1.79%		0.00%		0.00%		0.00%
COX-2		0.0%		0.0%		0.00%		0.00%		0.00%		0.00%
Cyclin D1		0.0%		0.0%		0.00%		0.00%		0.00%		0.00%
EGFR	5	16.7%	1	25.0%	9	16.07%	1	33.33%	3	67.67%	2	16.67
ER		0.0%		0.0%		0.00%		0.00%		0.00%		0.00%
Her2/Neu		0.0%		0.0%		0.00%		0.00%	2	4.44%		0.00%
HSP90	7	23.3%		0.0%	8	14.29%		0.00%	10	22.22%	4	33.33%
MLH1		0.0%		0.0%		0.00%		0.00%	1	2.22%		0.00%
MSH2	1	3.3%	1	25.0%	2	3.57%		0.00%	2	4.44%		0.00%
PDGFR	7	0.0%		0.0%	1	1.79%		0.00%	8	17.78%	3	25.00%
PR		0.0%		0.0%	8	14.29%	1	33.33%	1	2.22%		0.00%
PTEN		0.0%		0.0%	1	1.79%		0.00%		0.00%		0.00%
RRM1		0.0%		0.0%		0.00%		0.00%		0.00%		0.00%
SPARC	7	23.3%	1	25.0%	17	30.38%	1	33.33%	3	6.67%	1	8.33%
Survivin		0.0%		0.0%		0.00%		0.00%		0.00%		0.00%
TOP2A		0.0%	1	25.0%	4	7.14%		0.00%	7	15.56%	1	8.33%
Topolsomerase II alpha		0.0%		0.0%		0.00%		0.00%		0.00%		0.00%
Total Number of ICH Biomarkers Flagged as Target for Tumor Type Samples	30	100.00%	4	100.00%	56	100.00%	3	100.00%	45	100.00%	12	100.00%

FIG. 26B

Bladder (7)		Blood Vessel Vain (4)		Bone (2)		Bone if you have it if not Cartilage (1)		Brain (2)		Breast (99)		Cartilage (5)	
biomarker flagged as	tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	tumor type	biomarker flagged as	tumor type
1	5.26%		0.00%		0.00%		0.00%		0.00%	36	9.81%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	34	9.26%	2	10.53%
	0.00%		0.00%		0.00%		0.00%		0.00%	1	0.27%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
5	26.32%	1	16.67%		0.00%	1	50.00%	2	33.33%	36	9.81%	2	10.53%
	0.00%		0.00%		0.00%		0.00%		0.00%	27	7.36%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	28	7.83%		0.00%
3	15.79%		0.00%		0.00%		0.00%		0.00%	60	16.35%	3	15.79%
	0.00%		0.00%	1	33.33%		0.00%		0.00%	1	0.27%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	6	1.63%		0.00%
1	5.26%	1	16.67%		0.00%		0.00%	2	33.33%	35	9.54%	4	21.05%
	0.00%		0.00%		0.00%		0.00%		0.00%	15	4.09%	2	10.53%
2	10.53%		0.00%		0.00%		0.00%		0.00%	1	0.27%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
2	10.53%	3	50.00%	2	66.67%	1	50.00%	2	33.33%	41	11.17%	5	26.32%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
5	26.32%	1	16.67%		0.00%		0.00%		0.00%	46	12.53%	1	5.26%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
19	100.00%		100.00%		100.00%	2	100.00%	6	100.00%	367	100.00%		100.00%

FIG. 26C

Cervix (10)		Colon (67)		Colon Sigmoid (1)		Dendritic cells can be found in skin, the spleen, lymph node. Let's get Mike Bittner's take on site of origin (1)		Difficult origin to define. Try skeletal muscle (1)		Endometrium (3)		Esophagus
biomarker flagged as target	tumor type	biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	biomarker flagged as target
	0.00%	1	0.47%		0.00%		0.00%		0.00%		0.00%	
3	9.38%	32	15.09%	1	20.00%		0.00%		0.00%		0.00%	
1	3.13%	1	0.47%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%	1	0.47%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
4	12.50%	38	17.92%	1	20.00%	1	33.33%		0.00%	1	11.11%	6
	0.00%	1	0.47%		0.00%		0.00%		0.00%	1	11.11%	
2	6.25%	5	2.36%		0.00%		0.00%		0.00%		0.00%	3
7	21.88%	40	18.87%	1	20.00%		0.00%	1	25.00%	3	33.33%	5
1	3.13%		0.00%		0.00%		0.00%		0.00%		0.00%	
1	3.13%	3	1.42%		0.00%		0.00%		0.00%		0.00%	
2	6.25%	26	12.26%	1	20.00%		0.00%	1	25.00%		0.00%	1
2	6.25%	2	0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%	3	1.42%		0.00%		0.00%		0.00%	2	22.22%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
2	6.25%	20	9.43%		0.00%	1	33.33%	1	25.00%		0.00%	5
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
7	21.88%	39	18.40%	1	20.00%	1	33.33%	1	25.00%	2	22.22%	8
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
32	100.00%	212	100.00%	5	100.00%	3	100.00%	4	100.00%	9	100.00%	28

FIG. 26D

S (9)	Fallopian Tube (3)		Fibroblast (7)		Gallbladder (5)		Kidney (14)		Larynx (3)		Liver (1)		Lung (74)		Lymph Node (9)	
% in tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	tumor type	biomarker flagged as target	tumor type	biomarker flagged as target	tumor type	times biomark	tumor type	biomarker flagged as	% in tumor type
0.00%		0.00%		0.00%		0.00%	5	11.90%		0.00%		0.00%	4	1.79%		0.00%
0.00%		0.00%		0.00%	1	5.88%	3	7.14%		0.00%		0.00%	26	11.81%		0.00%
0.00%	1	11.11%		0.00%		0.00%		0.00%		0.00%		0.00%	1	0.45%	2	27.27%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	2	0.89%	6	%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	4	1.79%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
21.43%	1	11.11%	1	6.25%	5	29.41%	13	30.95%	3	25.00%		0.00%	55	24.55%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
10.71%		0.00%		0.00%	1	5.88%		0.00%		0.00%		0.00%	7	3.13%		0.00%
17.86%	1	11.11%	2	12.50%	3	17.65%	7	16.67%	3	25.00%		0.00%	30	13.39%	5	22.73%
0.00%		0.00%		0.00%		0.00%	1	2.38%	1	8.33%		0.00%	3	1.34%		0.00%
0.00%	1	11.11%		0.00%	1	5.88%	1	2.38%	1	8.33%		0.00%	4	1.79%	1	4.55%
3.57%	1	11.11%	2	12.50%	1	5.88%	3	7.14%		0.00%	1	50.00%	28	12.50%	2	9.09%
0.00%		0.00%	2	12.50%		0.00%	1	2.38%		0.00%		0.00%	5	2.23%		0.00%
0.00%		0.00%	1	6.25%		0.00%		0.00%		0.00%		0.00%	2	0.89%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
17.86%		0.00%	5	31.25%	3	17.65%	8	19.05%	1	8.33%	1	50.00%	25	11.16%	1	4.55%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
28.57%	3	33.33%	3	18.75%	2	11.76%		0.00%	3	25.00%		0.00%	28	12.50%	5	22.73%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
100.00%	9	100.00%	16	100.00%	17	100.00%	42	100.00%	12	100.00%	2	100.00%	224	100.00%	22	100.00%

FIG. 26E

Melanocytes (22)		Mesothelial Lining (6)		Myoepithilial cells (1)		Osteoblasts (2)		Ovary (40)		Pancreas (33)		Parotid (2)		Prostate (6)
biomarker flagged as target	% in tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	tumor type	biomarker flagged as target	tumor type	biomarker flagged as target	tumor type	biomarker flagged as target
	0.00%		0.00%		0.00%		0.00%	14	10.14%	2	0.00%	2	40.00%	5
9	20.45%	1	4.76%	1	25.00%		0.00%	6	4.35%		2.35%		0.00%	2
	0.00%	2	9.52%		0.00%		0.00%	2	1.45%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		11.11%		0.00%		0.00%		0.00%	
	0.00%	5	23.81%	1	25.00%	1	0.00%	16	11.59%	28	32.94%		0.00%	3
	0.00%	1	4.76%		0.00%		0.00%	22	15.94%		0.00%		0.00%	
	0.00%		0.00%		0.00%		11.11%	7	5.07%		0.00%	1	20.00%	1
11	25.00%	2	9.52%		0.00%	1	0.00%	22	15.94%	16	18.82%		0.00%	4
	0.00%	1	4.76%		0.00%		0.00%		0.00%		0.00%		0.00%	
1	2.27%	1	4.76%		0.00%		22.22%	2	1.45%	3	3.53%		0.00%	1
5	11.36%	2	9.52%		0.00%	2	11.11%	7	5.07%	10	11.76%		0.00%	4
	0.00%		0.00%	1	25.00%	1	0.00%	9	6.52%	2	2.35%		0.00%	
	0.00%		0.00%		0.00%		0.00%	1	0.72%	1	1.18%		0.00%	
	0.00%		0.00%		0.00%		22.22%		0.00%	1	1.18%		0.00%	
15	34.09%	5	23.81%	1	25.00%	2	0.00%	12	8.70%	14	16.47%	1	20.00%	3
	0.00%		0.00%		0.00%		22.22%		0.00%		0.00%		0.00%	
3	6.82%	1	4.76%		0.00%	2	0.00%	18	13.04%	8	9.41%	1	20.00%	2
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
44	100.00%	21	100.00%	4	100.00%	9	100.00%	138	100.00%	85	100.00%	5	100.00%	25

FIG. 26F

(6)	Salivary Gland (5)		Sinus tissue (1)		Skeletal Muscles (2)		Skin (5)		Small Intestine (4)		smooth muscle (3)		Smooth Muscle such as smooth muscle from the intestine without the epithelium, ditto for the uterus ie no endometrium (1)	
tumor type	biomarker flagged as	tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	tumor type	biomarker flagged as	tumor type	biomarker flagged as target	tumor type	biomarker flagged as target	tumor type	# of times biomarker flagged as target	% in tumor type
20.00%		0.00%		0.00%		0.00%	1	6.25%	1	9.09%	1	7.14%		0.00%
8.00%	3	13.64%	1	20.00%	1	12.50%		0.00%	3	27.27%	1	7.14%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
12.00%	3	13.64%	1	20.00%		0.00%	5	31.25%	3	27.27%	2	14.29%	1	50.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
4.00%%	1	4.55%		0.00%		0.00%	1	6.25%		0.00%		0.00%		0.00%
16.00%	4	18.18%	1	20.00%	2	25.00%	1	6.25%	1	9.09%	1	7.14%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	1	7.14%		0.00%
4.00%		0.00%		0.00%		0.00%	1	6.25%		0.00%	1	7.14%		0.00%
16.00%	3	13.64%	1	20.00%	1	12.50%	1	6.25%	1	9.09%	1	7.14%		0.00%
0.00%	1	4.55%		0.00%	1	12.50%		0.00%		0.00%	1	7.14%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
12.00%	5	22.73%	1	20.00%	2	25.00%	4	25.00%		0.00%	3	21.43%	1	50.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
8.00%	2	9.09%		0.00%	1	12.50%	2	12.50%	2	18.18%	2	14.29%		0.00%
0.00%		0.00		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
100.00%	22	100.00%	5	100.00%	8	100.00%	16	100.00%	11	100.00%	14	100.00%	2	100.00%

FIG. 26G

Smooth muscle such as Uterine wall but not uterine lining i.e., not endometrium (1)		Stomach (6)		Synovium (1)		Synovium or joint lining tissue (1)		Tendon (1)		Testis (1)		Thymus (2)	
# of times biomarker flagged as target	% in tumor type	biomarker flagged as	% in tumor type	biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	biomarker flagged as target	% in tumor type	biomarker flagged as target	tumor type	biomarker flagged as	tumor type
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	2	40.00%
	0.00%	1	5.88%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	4	23.53%	1	20.00%	1	100.00%		0.00%	1	50.00%	2	40.00%
1	20.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
1	20.00%	1	5.88%	1	20.00%		0.00%		0.00%	1	50.00%		0.00%
	0.00%	3	17.65%	1	20.00%		0.00%		0.00%		0.00%	1	20.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
1	20.00%	1	5.88%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	4	23.53%	1	20.00%		0.00%		0.00%		0.00%		0.00%
1	20.00%	1	5.88%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
1	20.00%		0.00%	1	20.00%		0.00%	1	100.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	2	11.76%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
5	100.00%	17	100.00%	5	100.00%	1	100.00%	1	100.00%	2	100.00%	5	100.00%

FIG. 26H

Thyroid (4)		Uterus (3)		Uterus:corpus (10)		Overall		
biomarker flagged as	tumor type	biomarker flagged as	tumor type	# of times biomarker flagged as target	% in tumor type			
	0.00%		0.00%	3	6.67%	78	4.5%	Androgen Receptor
	0.00%		0.00%		0.00%	148	8.6%	o – kit
	0.00%		0.00%		0.00%	11	0.6%	CD25
	0.00%		0.00%		0.00%	9	0.5%	CD52
	0.00%		0.00%		0.00%	5	0.3%	COX-2
	0.00%		0.00%		0.00%	0	0.0%	Cyclin D1
2	25.00%	1	12.50%	6	13.33%	284	16.6%	EGFR
1	12.50%	1	12.50%	4	8.89%	60	3.5%	ER
1	12.50%		0.00%		0.00%	64	3.7%	Her2/Neu
2	25.00%	1	12.50%	8	17.78%	285	16.6%	HSP90
	0.00%		0.00%		0.00%	11	0.6%	MLH1
	0.00%		0.00%		0.00%	37	2.2%	MSH2
	0.00%	1	12.50%	4	8.89%	179	10.4%	PDGFR
1	12.50%	1	12.50%	2	4.44%	61	3.6%	PR
	0.00%		0.00%		0.00%	14	0.8%	PTEN
	0.00%		0.00%		0.00%	1	0.1%	PRMI
1	12.50%	2	25.00%	10	22.22%	244	14.2%	SPARC
	0.00%		0.00%		0.00%	0	0.0%	Survivin
	0.00%	1	12.50%	8	17.78%	224	13.1%	TOP2A
	0.00%		0.00%		0.00%	0	0.0%	Topoisomerase II alpha
8	100.00%	8	100.00%	45	100.00%	1715		
						0		

FIG. 27A

	Tumor Type											
Gene Name (Microarray)	Adipose (13)		Adipose tissue, if not available use fibroblast (1)		Adrenal Cortex (18)		Adrenal Gland (1)		Adrenal Gland – Medulla (15)		Appendix (5)	
Gene	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type
ADA	3	2.75%	1	11.11%	4	3.28%		0.00%	9	5.59%	2	3.23%
AR		0.00%		0.00%	1	0.82%		0.00%	1	0.62%		0.00%
ASNS	4	3.67%		0.00%	6	4.92%		0.00%		0.00%	1	1.61%
ASNS		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
BRCA1	1	0.92%		0.00%		0.00%		0.00%		0.00%	4	6.45%
BRCA2		0.00%		0.00%		0.00%		0.00%		0.00%	3	4.84%
CD52		0.00%		0.00%	1	0.82%		0.00%		0.00%		0.00%
CDW52		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
CES2	2	1.83%		0.00%	1	0.82%		0.00%	1	0.62%	1	1.61%
CES2*		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
DCK	5	4.59%	1	11.11%	7	5.74%	1	10.00%	9	5.59%		0.00%
DHFR		0.00%		0.00%		0.00%		0.00%		0.00%	1	1.61%
DMNT1	4	3.67%		0.00%	2	1.64%		0.00%	8	4.97%		0.00%
DMNT3A	5	4.59%	1	11.11%	7	5.74%		0.00%	9	5.59%		0.00%
DMNT3B	11	10.09%	1	11.11%	10	8.20%		0.00%	14	8.70%		0.00%
EGFR	1	0.92%		0.00%	6	4.92%		0.00%	1	0.62%	1	1.61%
EPHA2	2	1.83%		0.00%	1	0.82%		0.00%	1	0.62%	2	3.23%
ERBB2		0.00%		0.00%		0.00%		0.00%	1	0.62%		0.00%
ESR1		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
FLT1		0.00%		0.00%		0.00%	1	10.00%	1	0.62%	1	1.61%
GART	10	9.17%		0.00%	1	0.82%		0.00%	4	2.48%	2	3.23%
GNRH1		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
HIF1A	3	2.75%		0.00%	7	5.74%		0.00%		0.00%	3	4.84%
HSP90AA1		0.00%		0.00%		0.00%		0.00%		0.00%	1	1.61%
HSPCA		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
IL2RA		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
KDR		0.00%		0.00%	1	0.82%		0.00%	2	1.24%	1	1.61%
KIT		0.00%		0.00%	4	3.28%		0.00%	6	3.73%		0.00%
LCK		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
MGMT	3	2.75%		0.00%	4	3.28%	1	10.00%	3	1.86%	1	1.61%
MLH1		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
MSH2	1	0.92%		0.00%		0.00%		0.00%		0.00%		0.00%
NFKB1	4	3.67%	1	11.11%	3	2.46%	1	10.00%	9	5.59%	3	4.84%
NFKB2	4	3.67%		0.00%		0.00%	1	10.00%	3	1.86%	2	3.23%
NFKB1A	2	1.83%		0.00%	4	3.28%		0.00%	14	8.70%	1	1.61%
PDGFC		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
PDGFRA	2	1.83%		0.00%		0.00%		0.00%		0.00%	1	1.61%
PDGFRB	1	0.92%	1	11.11%	1	0.82%	1	10.00%	5	3.11%	4	6.45%
PGR		0.00%		0.00%	4	3.28%		0.00%		0.00%		0.00%
PTEN	1	0.92%		0.00%		0.00%		0.00%		0.00%		0.00%
PTGS2	6	5.50%		0.00%		0.00%		0.00%		0.00%	1	1.61%
RARA		0%		0.00%		0.00%		0.00%		0.00%		0.00%
RRM1	2	1.83%		0.00%		0.00%		0.00%		0.00%	2	3.23%
RRM2		0.00%		0.00%		0.00%		0.00%		0.00%	4	6.45%
RRM2B	1	0.92%		0.00%	2	1.64%		0.00%	7	4.35%	1	1.61%
RXRG	1	0.92%		0.00%		0.00%		0.00%	2	1.24%		0.00%
SPARC	8	7.34%	1	11.11%	14	11.48%	1	10.00%	2	1.24%	1	1.61%
SPARC*		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
SRC	2	1.83%		0.00%	1	0.82%		0.00%	1	0.62%	1	1.61%
SSTR1	1	0.92%		0.00%	2	1.64%		0.00%	4	2.48%	2	3.23%
SSTR2		0.00%		0.00%		0.00%		0.00%	3	1.86%		0.00%
SSTR3	2	1.83%		0.00%	2	1.64%		0.00%	8	4.97%	3	4.84%
SSTR4	1	0.92%		0.00%	1	0.82%		0.00%	4	2.48%	1	1.61%
SSTR5	1	0.92%		0.00%	4	3.28%		0.00%	4	2.48%		0.00%
TOP1	4	3.67%	1	11.11%	4	3.28%	1	10.00%	4	2.48%	1	1.61%
TOP2A	1	0.92%	1	11.11%	4	3.28%	1	10.00%	7	4.35%	3	4.84%
TOP2B	4	3.67%		0.00%	1	0.62%		0.00%	12	7.45%		0.00%
TYMS	1	0.92%		0.00%		0.00%		0.00%		0.00%	3	4.84%
VDR	2	1.83%		0.00%		0.00%	1	10.00%	1	0.62%	1	1.61%
VEGF	1	0.92%		0.00%		0.00%		0.00%		0.00%		0.00%
VEGFA	1	0.92%		0.00%	3	2.46%		0.00%		0.00%	2	3.23%
VHL	1	0.92%		0.00%	5	4.10%		0.00%		0.00%	1	1.61%
YES1		0.00%		0.00%	3	2.46%		0.00%	1	0.62%		0.00%
ZAP70		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
Total Number of DMA Biomarkers Flagged as Target for Tumor Type Samples	109	100.00%	9	100.00%	122	99.18%	10	100.00%	161	100.00%	82	100.00%

FIG. 27B

Bladder (7)		Blood Vessel Vain (4)		Bone (2)		Bone if you have it if not Cartilage (1)		Brain (2)		Breast (100)		Cartilage (5)	
# of times biomarker flagged as	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as	% in tumor type
4	4.94%	2	4.35%	2	7.41%		0.00%		0.00%	42	3.63%	3	4.84%
1	1.23%		0.00%		0.00%		0.00%		0.00%	27	2.33%		0.00%
	0.00%	1	2.17%	1	3.70%	1	9.09%	2	6.67%	5	0.43%	1	1.61%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	9	0.78%	1	1.61%
	0.00%		0.00%		0.00%		0.00%		0.00%	62	5.35%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	1	0.09%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
1	1.23%	3	6.52%		0.00%		0.00%		0.00%	21	1.81%	1	1.61%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
5	6.17%		0.00%		0.00%		0.00%		0.00%	30	2.59%	3	4.84%
	0.00%		0.00%		0.00%		0.00%		0.00%	18	1.55%	1	1.61%
1	1.23%		0.00%		0.00%		9.09%		0.00%	2	0.17	1	1.61%
4	4.94%		0.00%	1	3.70%	1	9.09%	2	6.67%	8	0.69%		0.00%
3	3.70%	3	6.52%	2	7.41%		0.00%	1	3.33%	13	1.12%	2	3.23%
1	1.23%		0.00%		0.00%		0.00%	1	3.33%	4	0.35%	1	1.61%
2	2.47%		0.00%		0.00%		0.00%	1	3.33%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	10	0.86%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	29	2.50%		0.00%
	0.00%		0.00%	2	7.41%		0.00%	2	6.67%	18	1.55%		0.00%
4	4.94%	1	2.17%		0.00%	1	9.09%	2	6.67%	22	1.90%	2	3.23%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
6	7.41%	1	2.17%		0.00%	1	9.09%	2	6.67%	15	1.30%	4	6.45%
2	2.47%		0.00%		0.00%		0.00%		0.00%	7	0.60%	1	1.61%
	0.00%		0.00%		0.00%		0.00%		0.00%	7	0.60%	1	1.61%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	1	2.17%	1	3.70		0.00%		0.00%	12	1.04%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	23	1.99%	2	3.23%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
6	7.41%		0.00%	2	7.41%	1	9.09%	1	3.33%	56	4.84%	3	4.84%
1	1.23%		0.00%		0.00%		0.00%		0.00%	1	0.09%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	31	2.68%		0.00%
2	2.47%	4	8.70%		0.00%		0.00%	1	3.33%	33	2.85%	1	1.61%
	0.00%	3	6.52%	2	7.41%		0.00%	1	3.33%	21	1.81%	2	3.23%
2	2.47%	3	6.52%	2	7.41%	1	9.09%	1	3.33%	55	4.75%	3	4.84%
	0.00%		0.00%		0.00%		0.00%		0.00%	1	0.09%		0.00%
	0.00%	1	2.17%		0.00%		0.00%	2	6.67%	5	0.43%	1	1.61^
	0.00%	2	4.35%		0.00%	1	9.09%	2	6.67%	48	4.15%	3	4.84%
	0.00%		0.00%		0.00%		0.00%		0.00%	10	0.86%		0.00%
1	1.23%		00.0%		0.00%		0.00%		0.00%	1	0.09%		0.00%
2	2.47%	1	2.17%	2	7.41%		0.00%		0.00%	15	1.30%	3	4.84%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	4	0.35%		0.00%
	0.00%	1	2.17%		0.00%		0.00%		0.00%	48	4.15%		0.00%
	0.00%		0.00%	1	3.70%		0.00%		0.00%	15	1.30%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	2	0.17%		0.00%
2	2.47%	3	6.52%	1	3.70%	1	9.09%	2	6.67%	16	1.38%	3	4.84%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	3	6.52%		0.00%		0.00%		0.00%	32	2.76%		1.61%
2	2.47%		0.00%		0.00%		0.00%		0.00%	42	3.63%	1	1.61%
	0.00%	2	4.35%	2	7.41%		0.00%		0.00%	12	1.04%		0.00%
5	6.17%	3	6.52%	1	3.70%		0.00%		0.00%	74	6.39%	3	4.84
2	2.47%		0.00%		0.00%		0.00%		0.00%	27	2.33%	1	1.61%
	0.00%		0.00%		0.00%		0.00%	1	3.33%	23	1.99%	3	4.84%
7	8.64%	2	4.35%	1	3.70%		0.00%	1	3.33%	26	2.25%		0.00%
6	7.41%	1	2.17%		0.00%		0.00%		0.00%	34	2.94%	1	1.61%
2	2.47%		0.00%	2	7.41%	1	9.09%	1	3.33%	18	1.55%	2	3.23%
	0.00%		0.00%		0.00%		0.00%		0.00%	29	2.50%		0.00%
4	4.94%		0.00%		0.00%	1	9.09%	2	6.67%	67	5.79%	5	8.06%
	0.00%		0.00%		0.00%		0.00%		0.00%	1	0.09%		0.00%
1	1.23%	3	6.52%	2	7.41%		0.00%	2	6.67%	15	1.30%	1	1.61%
1	1.23%		0.00%		0.00%		0.00%		0.00%		0.00%	1	1.61%
1	1.23%	2	4.35%		0.00%		0.00%		0.00%	11	0.95%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
81	100.00%	46	100.00%	27	100.00%	11	100.00%	30	100.00%	1158	100.00%	82	100.00%

FIG. 27C

Cervix (10)		Colon (66)		Colon Sigmoid (1)		Dendritic cells can be found in skin, the spleen, lymph node. Let's get Mike Bittner's take on site of origin (1)		Difficult origin to define. Try skeletal muscle (1)		Endometrium (3)		Esophagus
# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	biomarker flagged as target
5	4.46%	20	3.08%		0.00%		12.50%		0.00%	2	4.88%	5
	0.00%	1	0.15%		0.00%		0.00%		0.00%		0.00%	
	0.00%	3	0.46%		0.00%		0.00%		0.00%	1	2.44%	1
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%	10	1.54%		0.00%		0.00%		0.00%		0.00%	
	0.00%	12	1.85%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
5	4.46%	3	0.46%		0.00%		0.00%		0.00%	2	4.88%	5
	0.00%	3	0.46%	1	7.14%		0.00%		0.00%		0.00%	
3	2.66%	2	0.31%		0.00%		0.00%	1	6.25%	1	2.44%	1
5	4.46%	27	4.16%		0.00%		0.00%		0.00%	2	4.88%	6
9	8.04%	32	4.93%	1	7.14%	1	12.50%	1	6.25%	3	7.32%	8
1	0.89%	9	1.39%	1	7.14%	1	12.50%		0.00%	1	2.44%	4
	0.00%	3	0.46%		0.00%		0.00%		0.00%	2	4.88%	
2	1.79%	1	0.15%		0.00%		0.00%		0.00%		0.00%	3
	0.00%	1	0.15%		0.00%		0.00%		0.00%		0.00%	
	0.00%	24	3.70%		0.00%		0.00%		0.00%		0.00%	2
10	8.93%	30	4.62%		0.00%	1	12.50%	1	6.25%	2	4.88%	3
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
3	2.68%	29	4.47%		0.00%		0.00%	1	6.25%	2	4.88%	7
4	3.57%	15	2.31%		0.00%		0.00%	1	6.25%	2	4.88%	4
1	0.89%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%	6	0.92%		0.00%		0.00%		0.00%		0.00%	
	0.00%	3	0.46%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
4	3.57%	21	3.24%	1	7.14%	1	12.50%	1	6.25%		0.00%	9
	0.00%	2	0.31%		0.00%		0.00%	1	6.25%	1	2.44%	
	0.00%	2	0.31%		0.00%		0.00%		0.00%		0.00%	
3	2.68%	22	3.39%	1	7.14%		0.00%		0.00%	1	2.44%	3
	0.00%	9	1.39%		0.00%		0.00%		0.00%	1	2.44%	2
5	4.46%	26	4.01%	1	7.14%		0.00%	1	6.25%	3	7.32%	1
	0.00%	1	0.15%		0.00%		0.00%		0.00%		0.00%	
	0.00%	3	0.46%		0.00%		0.00%		0.00%		0.00%	
	0.00%	29	4.47%	1	7.14%		0.00%		0.00%		0.00%	2
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%	1	0.15%		0.00%		0.00%		0.00%	3	7.32%	
	0.00%	3	0.46%	1	7.14%		0.00%		0.00%	3	7.32%	4
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%	3	0.46%		0.00%		0.00%		0.00%		0.00%	1
	0.00%	20	3.08%	1	7.14%		0.00%		0.00%		0.00%	
	0.00%	7	1.08%		0.00%		0.00%	1	6.25%		0.00%	3
	0.00%	3	0.46%		0.00%		0.00%		0.00%		0.00%	
2	1.79%	18	2.77%		0.00%		0.00%	1	6.25%		0.00%	5
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%	4	0.62%		0.00%		0.00%	1	6.25%		0.00%	7
4	3.57%	24	3.70%	1	7.14%		0.00%		0.00%		0.00%	3
1	0.89%	5	0.77%		0.00%		0.00%		0.00%		0.00%	2
9	8.04%	48	7.40%	1	7.14%	1	12.50%		0.00%		0.00%	7
3	2.68%	30	4.62%	1	7.14%		0.00%		0.00%		0.00%	2
1	0.89%	16	2.47%		0.00%		0.00%		0.00%		0.00%	1
6	5.36%	18	2.77%		0.00%	1	12.50%	1	6.25%		0.00%	7
10	8.93%	32	4.93%		0.00%	1	12.50%	1	6.25%	2	4.88%	8
1	0.89%	15	2.31%		0.00%		0.00%	1	6.25%		0.00%	4
	0.00%	7	1.08%	1	7.14%		0.00%		0.00%		0.00%	1
6	5.36%		0.00%		0.00%		0.00%	1	6.25%	3	7.32%	1
1	0.89%	2	0.31%		0.00%		0.00%		0.00%		0.00%	
5	4.46%	39	6.01%	1	7.14%		0.00%		0.00%	3	7.32%	3
	0.00%	2	0.31%		0.00%		0.00%		0.00%	1	2.44%	
3	2.68%	3	0.46%		0.00%		0.00%	1	6.25%		0.00%	3
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
112	100.00%	649	100.00%	14	100.00%	8	100.00%	16	100.00%	41	100.00%	128

FIG. 27D

S (9)	Fallopian Tube (3)		Fibroblast (7)		Gallbladder (5)		Kidney (14)		Larynx (3)		Liver (1)		Lung (74)		Lymph Node (9)	
% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomark	% in tumor type	# of times biomarker flagged as	% in tumor type
3.91%	2	4.88%	5	5.88%	4	6.45%	12	9.45%	1	2.27%	1	6.25%	29	3.63%	5	4.81%
0.00%		0.00%		0.00%		0.00%	1	0.79%		0.00%		0.00%		0.00%		0.00%
0.78%		0.00%	3	3.53%	1	1.61%		0.00%		0.00%		0.00%	1	0.13%	1	0.96%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%	6	7.06%		0.00%		0.00%		0.00%	1	6.25%	1	0.13%	1	0.96%
0.00%		0.00%	5	5.88%	2	3.23%		0.00%		0.00%		0.00%		0.00%	2	1.92%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	2	1.92%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%	1	1.18%	1	1.61%		0.00%		0.00%		0.00%	17	2.13%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
3.91%	3	7.32%		0.00%		0.00%	7	5.51%	2	4.55%		0.00%	8	1.00%	5	4.81%
0.00%		0.00%	3	3.53%		0.00%	3	2.36%		0.00%	1	6.25%		0.00%	2	1.92%
0.78%	1	2.44%		0.00%		0.00%		0.00%		0.00%		0.00%	5	0.63%		0.00%
4.69	3	7.32%	5	5.88%	1	1.61%	11	8.66%	3	6.82%	1	6.25%	36	4.51%	5	4.81%
6.25%	3	7.32%	2	2.35%	1	1.61%	9	7.09%	2	4.55%		0.00%	42	5.26%	2	1.92%
3.13%		0.00%		0.00%	3	4.84%	4	3.15%	3	6.82%		0.00%	18	2.25%		0.00%
0.00%		0.00%	1	1.18%	4	6.45%		0.00%		0.00%		0.00%	2	0.25%		0.00%
2.34%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	3	0.38%		0.00%
0.00%	1	2.44%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
1.56%		0.00%		0.00%		0.00%	2	1.57%		0.00%		0.00%	3	0.38%	1	0.96%
2.34%	3	7.32%	4	4.71%	3	4.84%	7	5.51%	3	6.82%		0.00%	44	5.51%	5	4.81%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
5.47%	3	7.32%		0.00%		0.00%	3	2.36%	3	6.82%	1	6.25%	37	4.63%	3	2.88%
3.13%	1	2.44%		0.00%		0.00%	1	0.79%	3	6.82%		0.00%	15	1.88%	5	4.81%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	1	0.13%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	1	0.13%	1	0.96%
0.00%		0.00%		0.00%		0.00%	2	1.57%		0.00%		0.00%	5	0.63%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
7.03%	2	4.88%	2	2.35%	2	3.23%	10	7.87%	3	6.82%	1	6.25%	46	5/86%	3	2.88%
0.00%		0.00%		0.00%	1	1.61%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%	1	1.18%	1	1.61%	1	0.79%		0.00%		0.00%		0.00%		0.00%
2.34%	1	2.44%	3	3.53%		0.00%	1	0.79%	1	2.27%		0.00%	47	5.88%	1	0.96%
1.56%	3	7.32%	1	1.18%	3	4.84%	2	1.57%	3	6.82%		0.00%	33	4.13%	2	1.92%
0.78%	1	2.44%	5	5.88%	2	3.23%	4	3.15%	1	2.27%		0.00%	42	5.26%	4	3.85%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	4	0.50%		0.00%
0.00%		0.00%	1	1.18%		0.00%	2	1.57%		0.00%		0.00%	3	0.38%		0.00%
1.56%		0.00%	1	1.18%		0.00%	5	3.94%		0.00%	1	6.25%	3	0.38%		0.00%
0.00%		0.00%	1	1.18%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%	1	1.61%		0.00%		0.00%		0.00%	1	0.13%		0.00%
3.13%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	4	0.50%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	2	1.92%
0.78%		0.00%	4	4.71%		0.00%		0.00%		0.00%		0.00%	1	0.13%	1	0.96%
0.00%		0.00%	4	4.71%	1	1.61%		0.00%		0.00%	1	0.00%	1	0.13%	5	4.81%
2.34%		0.00%	2	2.35%	3	4.84%	2	1.57%		0.00%		0.00%	19	2.38%		0.00%
0.00%		0.00%		0.00%	2	3.23%		0.00%		0.00%		0.00%	4	0.50%	1	0.96%
3.91%		0.00%	1	1.18%		0.00%	7	5.51%	1	2.27%	1	6.25%	10	1.25%	1	0.96%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
5.47%		0.00%		0.00%	2	3.23%	1	0.79%		0.00%	1	0.00%	8	1.00%	4	3.85%
2.34%		0.00%		0.00%	3	4.84%	2	1.57%	1	2.27%	1	6.25%	20	2.50%	3	2.88%
1.56%		0.00%	5	5.88%		0.00%		0.00%		0.00%		0.00%	13	1.63%	2	1.92%
5.47%		0.00%	4	4.17%	3	4.84%	11	8.66%	1	2.27%	1	6.25%	42	5.26%	9	8.65%
1.56%		0.00%	1	1.18%	3	4.84%	2	1.57%	1	2.27%	1	6.25%	17	2.13%	6	5.77%
0.78%		0.00%	1	1.18%	2	3.23%		0.00%		0.00%	1	0.00%	15	1.88%	4	3.85%
5.47%	3	7.32%	2	2.35%	5	6.06%	1	0.79%	3	6.82%		6.25%	34	4.26%	4	3.85%
6.25%	3	7.32%	4	4.71%	1	1.61%	1	0.79%	3	6.82%		6.25%	41	5.13%	3	2.88%
3.13%	3	7.32%	1	1.18%	3	4.84%	2	1.57%		0.00%	1	0.00%	55	6.88%	3	2.88%
0.78%		0.00%	4	4.71%	1	1.61%		0.00%		0.00%		0.00%		0.00%	1	0.96%
0.78%	2	4.88%		0.00%		0.00%	1	0.79%	3	6.82%	1	6.25%	32	4.01%	3	2.88%
0.00%		0.00%		0.00%		0.00%	2	1.57%		0.00%		0.00%	6	0.75%		0.00%
2.34%	1	2.44%	2	2.35%	3	4.84%	2	1.57%	1	2.27%		0.00%	13	1.63%	2	1.92%
0.00%		0.00%		0.00%		0.00%	6	4.72%		0.00%		0.00%	11	1.38%		0.00%
2.34%	2	4.88%		0.00%		0.00%		0.00%	2	4.55%		0.00%	6	0.75%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
100.00%	41	100.00%	85	100.00%	62	100.00%	127	100.00%	44	100.00%	16	100.00%	799	100.00%	104	100.00%

FIG. 27E

Melanocytes (22)		Mesothelial Lining (6)		Myoepithilial cells (1)		Osteoblasts (2)		Ovary (39)		Pancreas (31)		Parotid (2)		Prostate (6)
# of biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target
15	4.37%	2	2.82%	1	8.33%	2	5.88%	13	2.69%	12	3.48%	2	5.71%	2
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	2	5.71%	2
6	1.75%		0.00%		0.00%	2	5.88%	1	0.21%	22	6.38%	2	5.71%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
18	5.25%	4	5.63%		0.00%		0.00%	1	0.21%	1	0.29%		0.00%	
16	4.66%	4	5.63%		0.00%		0.00%		0.00%	1	0.29%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
2	0.58%		0.00%		0.00%		0.00%	2	0.41%	3	0.87%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
1	0.29%		0.00%		0.00%		0.00%	19	3.93%	12	3.48%	1	2.86%	3
10	2.92%	5	7.04%	1	8.33%		0.00%	1	0.21%	1	0.29%		0.00%	
1	0.29%		0.00%		0.00%		0.00%	2	0.41%	2	0.58%	1	2.86%	
4	1.17%	2	2.82%	1	8.33%	1	2.94%	10	2.07%	4	1.16%	2	5.71%	2
3	0.87%		0.00%	1	8.33%	2	5.88%	32	6.61%	1	0.29%	2	5.71%	4
	0.00%		0.00%		0.00%		0.00%		0.00%	7	2.03%		0.00%	
8	2.33%		0.00%		0.00%		0.00%	1	0.21%	2	0.58%		0.00%	
	0.00%		0.00%		0.00%		0.00%	3	0.62%		0.00%	1	2.86%	
	0.00%	1	1.41%		0.00%		0.00%	10	2.07%		0.00%		0.00%	
19	5.54%	5	7.04%		0.00%	2	5.88%	2	0.41%	2	0.58%		0.00%	
7	2.04%	1	1.41%		0.00%	2	5.88%	29	5.99%	24	6.96%	2	5.71%	3
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
5	1.46%		0.00%		0.00%		0.00%	29	5.99%	27	7.83%	2	5.71%	1
3	0.87%		0.00%		0.00%	1	2.94%	19	3.93%	11	3.19%		0.00%	
	0.00%		0.00%		0.00%		0.00%	3	0.62%	1	0.29%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
3	0.87%		0.00%		0.00%		0.00%	2	0.41%		0.00%		0.00%	
	0.00%		0.00%	1	8.33%		0.00%	1	0.21%	1	0.29%		0.00%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
16	4.66%	2	2.82%	1	8.33%	2	5.88%	30	6.20%	23	6.67%	1	2.86%	3
1	0.29%		0.00%		0.00%		0.00%	2	0.41%		0.00%		0.00%	
3	0.87%		0.00%		0.00%		0.00%	1	0.21%		0.00%		0.00%	
6	1.75%		0.00%		0.00%	1	2.94%	25	5.17%	1	0.29%	1	2.86%	1
5	1.46%	3	4.23%		0.00%	2	5.88%	23	4.75%	12	3.48%		0.00%	1
19	5.54%	2	2.82%		0.00%	2	5.88%	12	2.48%	15	4.35%	2	5.71%	2
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
4	1.17%		0.00%		0.00%		0.00%		0.00%	6	1.74%		0.00%	
14	4.08%	4	5.63%		0.00%		0.00%	1	0.21%	13	3.77%	1	2.86%	
	0.00%		0.00%		0.00%	1	2.94%	1	0.21%		0.00%		0.00%	
2	0.58%		0.00%		0.00%		0.00%	1	0.21%	2	0.58%		0.00%	
2	0.58%	3	4.23%		0.00%	2	5.88%	2	0.41%	23	6.67%	1	2.86%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
14	4.08%	5	7.04%		0.00%		0.00%	1	0.21%		0.00%		0.00%	
20	5.83%	5	7.04%	1	8.33%		0.00%		0.00%	3	0.87%		0.00%	
8	2.33%	4	5.63%	1	8.33%		0.00%	3	0.62%	3	0.87%		0.00%	1
5	1.46%		0.00%		0.00%		0.00%	1	0.21%		0.00%		0.00%	1
6	1.75%	1	1.41%		0.00%		0.00%	6	1.24%	14	4.06%	1	2.86%	1
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
11	3.21%		0.00%		0.00%		0.00%	1	0.21%	2	0.58%		0.00%	
2	0.58%	1	1.41%		0.00%	1	2.94%	5	1.03%	4	1.16%	1	2.86%	3
16	4.66%	5	7.04%	1	8.33%	1	2.94%	1	0.21%	4	1.16%	1	2.86%	
10	2.92%	4	5.63%		0.00%	1	2.94%	19	3.93%	2	0.58%	1	2.86%	4
5	1.46%	2	2.82%	1	8.33%	1	2.94%	6	1.24%	1	0.29%	1	2.86%	2
3	0.87%		0.00%		0.00%	1	2.94%	2	0.41%	1	0.29%		0.00%	1
5	1.46%		0.00%	1	8.33%	1	2.94%	31	6.40%	27	7.83%	2	5.71%	2
5	1.46%	1	1.41%		0.00%	2	5.88%	23	4.75%	8	2.32%	1	2.86%	2
3	0.87%	1	1.41%	1	8.33%	1	2.94%	34	7.02%	21	6.09%		0.00%	4
10	2.92%	3	4.23%		0.00%		0.00%	1	0.21%		0.00%		0.00%	
8	2.33%		0.00%		0.00%	1	2.94%	28	5.79%	18	5.22%	2	5.71%	1
	0.00%		0.00%		0.00%		0.00%	3	0.62%		0.00%		0.00%	
15	4.37%	1	1.41%		0.00%	2	5.88%	23	4.75%	1	0.29%	1	2.86%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
4	1.17%		0.00%		0.00%		0.00%	18	3.72%	7	2.03%	1	2.86%	
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	
343	100.00%	71	100.00%	12	100.00%	34	100.00%	484	100.00%	345	100.00%	35	100.00%	46

FIG. 27F

(6)	Salivary Gland (5)		Sinus tissue (1)		Skeletal Muscles (2)		Skin (5)		Small Intestine (4)		smooth muscle (3)		Smooth Muscle such as smooth muscle from the intestine without the epithelium, ditto for the uterus ie no endometrium (1)	
% in tumor type	# of times biomarker flagged as	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type
4.35%	3	3.85%		0.00%	1	3.23%	4	9.76%	3	9.68%	2	5.56%		0.00%
4.35%		0.00%		0.00%		0.00%		0.00%	1	3.23%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	1	10.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	1	2.78%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%	1	2.44%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
6.52%	3	3.85%		0.00%		0.00%	1	2.44%	1	3.23%	1	2.78%	1	10.00%
0.00%	1	1.28%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%	1	1.28%		0.00%		0.00%	1	2.44%		0.00%		0.00%		0.00%
4.35%	3	3.85%		0.00%	1	3.23%	5	12.20%		0.00%	2	5.56%		0.00%
8.70%	2	2.56%	1	7.14%	2	6.45%	3	7.32%		0.00%	2	5.56%		0.00%
0.00%	1	1.28%		0.00%		0.00%		0.00%	1	3.23%		0.00%		0.00%
0.00%		0.00%		0.00%	1	3.23%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%	1	2.44%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%	2	2.56%		0.00%		0.00%		0.00%		0.00%	1	2.78%		0.00%
6.52%	4	5.13%	1	7.14%	1	3.23%		0.00%		0.00%	1	2.78%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
2.17%	5	6.41%	1	7.14%	2	6.45%	1	2.44%	2	6.45%	3	8.33%	1	10.00%
0.00%	3	3.85%		0.00%		0.00%		0.00%	1	3.23%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%	2	2.56%		0.00%	1	3.23%		0.00%	1	3.23%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
6.52%	4	5.13%	1	7.14%	2	6.45%	1	2.44%	2	6.45%	3	8.33%	1	10.00%
0.00%		0.00%		0.00%	1	3.23%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
2.17%	3	3.85%		0.00%	1	3.23%	4	9.76%		0.00%	2	5.56%		0.00%
2.17%	2	2.56%	1	7.14%		0.00%	2	4.88%		0.00%		0.00%		0.00%
4.35%	1	1.28%	1	7.14%		0.00%	2	4.88%		0.00%	2	5.56%	1	10.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%	2	2.56%	1	7.14%	1	3.23%		0.00%	1	3.23%	1	2.78%		0.00%
0.00%	2	2.56%	1	7.14%	1	3.23%		0.00%		0.00%	2	5.56%	1	10.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%	2	2.56%		0.00%		0.00%	2	4.88%		0.00%	1	2.78%	1	10.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%	2	6.45%		0.00%		0.00%
2.17%		0.00%		0.00%	1	3.23%		0.00%		0.00%		0.00%		0.00%
2.17%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
2.17%	5	6.41%	1	7.14%	2	6.45%		0.00%		0.00%	1	2.78%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%	1	1.28%		0.00%	2	6.45%	1	2.44%		0.00%		0.00%		0.00%
6.52%	1	1.28%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%		0.00%		0.00%	1	3.23%		0.00%		0.00%	1	2.78%	1	10.00%
8.70%	3	3.85%	1	7.14%	1	3.23%	4	9.76%	3	9.68%	3	8.33%		0.00%
4.35%	1	1.28%		0.00%		0.00%	2	4.88%	1	3.23%		0.00%		0.00%
2.17%		0.00%		0.00%	1	3.23%		0.00%	1	3.23%		0.00%		0.00%
4.35%	5	6.41%	1	7.14%	2	6.45%	1	2.44%	3	9.68%	1	2.78%	1	10.00%
4.35%	3	3.85%	1	7.14%	1	3.23%	2	4.88%	2	6.45%	2	5.56%		0.00%
8.70%	5	6.41%	1	7.14%	2	6.45%	2	4.88%	3	9.68%	2	5.56%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%	1	3.23%		0.00%		0.00%
2.17%	4	5.13%	1	7.14%	1	3.23%	1	2.44%		0.00%	1	2.78%	1	10.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%	1	1.28%		0.00%		0.00%		0.00%	1	3.23%	1	2.78%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
0.00%	3	3.85%		0.00%	2	6.45%		0.00%	1	3.23%		0.00%		0.00%
0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
100.00%	78	100.00%	14	100.00%	31	100.00%	41	100.00%	31	100.0%	36	100.00%	10	100.00%

FIG. 27G

Smooth muscle such as Uterine wall but not uterine lining i.e., not endometrium (1)		Stomach (5)		Synovium (1)		Synovium or joint lining tissue (1)		Tendon (1)		Testis (1)		Thymus (2)	
# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as target	% in tumor type	# of times biomarker flagged as	% in tumor type
1	10.00%	5	8.62%		0.00%	1	6.67%	1	10.00%	1	4.55%	2	6.45%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	1	3.23%
	0.00%	1	1.72%		0.00%		0.00%		0.00%	1	4.55%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	6.67%		0.00%	1	4.55%		0.00%
	0.00%	2	3.45%		0.00%		0.00%		0.00%	1	4.55%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%	2	6.45%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	2	3.45%	1	6.25%	1	6.67%		0.00%	1	4.55%		0.00%
1	10.00%	4	6.90%	1	6.25%	1	6.67%	1	10.00%	1	4.55%		0.00%
	0.00%	1	1.72%	1	6.25%		0.00%		0.00%	1	4.55%	1	3.23%
	0.00%		0.00%	1	6.25%		0.00%		0.00%	1	4.55%		0.00%
	0.00%		0.00%	1	6.25%		0.00%		0.00%	1	4.55%		0.00%
1	10.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%	1	4.55%		0.00%
1	10.00%		0.00%	1	6.25%	1	6.67%	1	10.00%		0.00%		0.00%
1	10.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
1	10.00%	2	3.45%	1	6.25%	1	6.67%	1	10.00%	1	4.55%	2	6.45%
	0.00%	1	1.72%	1	6.25%		0.00%		0.00%		0.00%	1	3.23%
	0.00%	1	1.72%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	1	1.72%		0.00%		0.00%		0.00%	1	4.55%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	3	5.17%	1	6.25%	1	6.67%	1	10.00%	1	4.55%	1	3.23%
	0.00%	1	1.72%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	3	5.17%		0.00%		0.00%		0.00%		0.00%	2	6.45%
	0.00%	2	3.45%		0.00%		0.00%		0.00%		0.00%	2	6.45%
	0.00%	3	5.17%		0.00%		0.00%		0.00%	1	4.55%	1	3.23%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	6.25%		0.00%		0.00%		0.00%		0.00%
	0.00%	2	3.45%		0.00%		0.00%		0.00%	1	4.55%	1	3.23%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	1	1.72%		0.00%		0.00%		0.00%	1	4.55%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	2	3.45%		0.00%	1	6.67%		0.00%		0.00%	2	6.45%
	0.00%	1	1.72%	1	6.25%	1	6.67%	1	10.00%		0.00%		0.00%
	0.00%	1	1.72%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	6.25%		0.00%	1	10.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
1	10.00%	1	1.72%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	1	1.72%		0.00%	1	6.67%		0.00%	1	4.55%	2	6.45%
	0.00%	1	1.72%	1	6.25%	1	6.67%		0.00%		0.00%		0.00%
	0.00%	4	6.90%		0.00%	1	6.67%		0.00%	1	4.55%	2	6.45%
	0.00%	3	5.17%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	1	1.72%	1	6.25%	1	6.67%		0.00%		0.00%		0.00%
1	10.00%	2	3.45%		0.00%		0.00%	1	10.00%	1	4.55%	2	6.45%
	0.00%	3	5.17%		0.00%		0.00%		0.00%		0.00%		0.00%
1	10.00%		0.00%	1	6.25%	1	6.67%	1	10.00%		0.00%	2	6.45%
	0.00%		0.00%		0.00%		0.00%		0.00%	1	4.55%	2	6.45%
1	10.00%		0.00%		0.00%		0.00%	1	10.00%	1	4.55%	2	6.45%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%	3	5.17%		0.00%		0.00%		0.00%	1	4.55%		0.00%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	6.25%	1	6.67%		0.00%		0.00%	1	3.23%
	0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
10	100.00%	58	100.00%	16	100.00%	15	100.00%	10	100.00%	22	100.00%	31	100.00%

FIG. 27H

Thyroid (4)		Uterus (3)		Uterus:corpus (10)		Overall		
# of times biomarker flagged as	% in tumor type	# of times biomarker flagged as	% in tumor type	# of times biomarker flagged as target	% in tumor type			
3	4.11%	1	2.44%	.6	4.69%	247	4.0%	ADA
	0.00%		0.00%		0.00%	38	0.6%	AR
1	1.37%	1	2.44%		0.00%	71	1.2%	ASNS
	0.00%		0.00%		0.00%	0	0.0%	ASNS
	0.00%		0.00%		0.00%	61	1.0%	BRCA1
4	5.48%		0.00%		0.00%	114	1.9%	BRCA2
	0.00%		0.00%		0.00%	4	0.1%	CD52
	0.00%		0.00%		0.00%	0	0.00%	CDW52
	0.00%	1	2.44%		0.00%	59	1.0%	CES2
	0.00%		0.00%		0.00%	0	0.0%	CES2
	0.00%		0.00%	4	3.13%	148	2.4%	DCK
	0.00%		0.00%		0.00%	54	0.9%	DHFR
	0.00%		0.00%	4	3.13%	45	0.7%	DNMT1
4	5.48%	2	4.88%	5	3.91%	196	3.2%	DNMT3A
4	5.48%	2	4.188	10	7.81%	256	4.2%	DNMT3B
2	2.74%		0.00%		0.00%	76	1.2%	EGFR
	0.00%		0.00%		0.00%	35	0.6%	EPHA2
1	1.37%		0.00%		0.00%	28	0.5%	ERBB2
1	1.37%		0.00%	2	1.56%	46	0.7%	ESR1
1	1.37%		0.00%		0.00%	92	1.5%	FLT1
1	1.37%	2	4.88%	6	4.69%	253	4.1%	GART
	0.00%		0.00%		0.00%	1	0.0%	GNRH1
3	4.11%	2	4.88%	7	5.47%	234	3.8%	HIFIA
1	1.37	1	2.44%	6	4.69%	111	1.8%	HSP90AA1
	0.00%		0.00%		0.00%	15	0.2%	HSPCA
	0.00%		0.00%		0.00%	0	0.0%	IL2RA
1	1.37%		0.00%		0.00%	34	0.6%	KDR
	0.00%		0.00%		0.00%	52	0.8%	KIT
	0.00%		0.00%		0.00%	0	0.0%	LCK
4	5.48%	2	4.88%	10	7.81%	303	4.9%	MGMT
1	1.37%		0.00%	1	0.78%	14	0.2%	MLH1
1	1.37%		0.00%		0.00%	42	0.7%	MSH2
3	4.11%	3	7.32%	3	2.34%	205	3.3%	NFKB1
1	1.37%	2	4.88%	4	3.13%	160	2.6%	NFKB2
3	4.11%	2	4.88%	6	4.69%	261	4.2%	NFKBIA
	0.00%		0.00%		0.00%	6	0.1%	PDGFC
	0.00%		0.00%	1	0.78%	39	0.6%	PDGFRA
3	4.11%		0.00%	1	0.78%	159	2.6%	PDGFRB
	0.00%		0.00%		0.00%	17	0.3%	PGR
	0.00%		0.00%	2	1.56%	16	0.3%	PTEN
1	1.37%	3	7.32%		0.00%	90	1.5%	PTGS2
	0.00%		0.00%		0.00%	2	0.0%	RARA
	0.00%	1	2.44%		0.00%	39	0.6%	RRM1
4	5.48%		0.00%		0.00%	126	2.0%	RRM2
2	2.74%	1	2.44%	1	0.78%	93	1.5%	RRM2B
2	2.74%		0.00%		0.00%	25	0.4%	RXRG
1	1.37%		0.00%		0.00%	143	2.3%	SPARC
	0.00%		0.00%		0.00%	0	0.0%	SPARC*
3	4.11%		0.00%	4	3.13%	96	1.6%	SRC
2	2.75%		0.00%	4	3.13%	145	2.4%	SSTR1
1	1.37%	2	4.88%	2	1.56%	87	1.4%	SSTR2
4	5.48%	2	4.88%	6	4.69%	314	5.1%	SSTR3
2	2.74%	1	2.44%	3	2.34%	136	2.2%	SSTR4
1	1.37%	1	2.44%		0.00%	92	1.5%	SSTR5
2	2.74%	3	7.32%	10	7.81%	242	3.9%	TOP1
1	1.37%	1	2.44%	9	7.03%	236	3.8%	TOP2A
	0.00%	2	4.88%	2	1.56%	222	3.6%	TOP2B
	0.00%		0.00%		0.00%	68	1.1%	TYMS
1	1.37%	1	2.44%	3	2.34%	214	3.5%	VDR
	0.00%	1	2.44%		0.00%	17	0.3%	VEGF
3	4.11%		0.00%	4	3.13%	162	2.6%	VEGFA
	0.00%	1	2.44%		0.00%	30	0.5%	VHL
	0.00%		0.00%		0.00%	77	1.3%	YES1
	0.00%		0.00%		0.00%	0	0.0%	ZAP70
73	100.00%	41	100.00%	128	98.44%	6,149		

FIG. 28A

	Tumor Type			
	Accessory, Sinuses, Middle & Inner Ear		Adrenal Glands	
Count of Case #	3		42	
IHC	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
Androgen Receptor			2	1.60%
c - kit	2	18.18%	10	8.00%
CD25		0.00%		0.00%
CD52		0.00%	2	1.60%
COX - 2		0.00%	5	4.00%
Cyclin D1		0.00%		0.00%
EGFR	2	18.18%	21	16.80%
ER		0.00%		0.00%
Her2/Neu		0.00%		0.00%
HSP90	2	18.18%	13	10.40%
MLH1		0.00%		0.00%
MSH2		0.00%	2	1.60%
PDGFR	1	9.09%	6	4.80%
PR		0.00%	20	16.00%
PTEN		0.00%	3	2.40%
RRM1		0.00%		0.00%
SPARC	3	27.27%	36	28.80%
Survivin		0.00%		0.00%
TOP2A	1	9.09%	5	4.00%
Grand Total	11	100.00%	125	100.00%

FIG. 28B

Appendix		Hematopoietic Sys		Bones & Joints		Spinal Cord, (Excl.	
11		4		25		10	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
	0		0	1	1.39%		0.00%
4	14.81%		0.00%	7	9.72%	1	5.00%
1	3.70%		0.00%		0.00%		0.00%
	0.00%	1	25.00%		0.00%		0.00%
	0.00%		0.00%	1	1.39%		0.00%
	0.00%		0.00%		0.00%		0.00%
7	25.93%		0.00%	10	13.89%	5	25.00%
	0.00%		0.00%		0.00%		0.00%
2	7.41%		0.00%	1	1.39%		0.00%
5	18.52%		0.00%	10	13.89%	1	5.00%
	0.00%		0.00%	1	1.39%		0.00%
	0.00%		0.00%		0.00%		0.00%
3	11.11%		0.00%	10	13.89%	6	30.00%
	0.00%		0.00%	7	9.72%	1	5.00%
	0.00%	1	25.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
4	14.81%	2	50.00%	18	25.00%	6	30.00%
	0.00%		0.00%		0.00%		0.00%
1	3.70%		0.00%	6	8.33%		0.00%
27	100.00%	4	100.00%	72	100.00%	20	100.00%

FIG. 28C

Breast		Cerebellum		Cervix Uteri		Connective & Soft Tissue	
254		2		16		49	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
87	11.34%		0	1	2.04%	6	4.51%
94	12.26%	1	25.00%	4	8.16%	8	6.02%
4	0.52%		0.00%	1	2.04%		0.00%
2	0.26%		0.00%		0.00%	1	0.75%
10	1.30%		0.00%	1	2.04%	2	1.50%
	0.00%		0.00%		0.00%		0.00%
88	11.47%		0.00%	9	18.37%	26	19.55%
53	6.91%		0.00%		0.00%		0.00%
46	6.00%		0.00%	4	8.16%		0.00%
85	11.08%	1	25.00%	9	18.37%	22	16.54%
1	0.13%		0.00%	1	2.04%	1	0.75%
6	0.78%		0.00%	1	2.04%	3	2.26%
80	10.43%		0.00%	2	4.08%	17	12.78%
31	4.04%	1	25.00%	1	2.04%	4	3.01%
4	0.52%		0.00%		0.00%		0.00%
1	0.13%		0.00%		0.00%		0.00%
103	13.43%	1	25.00%	6	12.24%	32	24.06%
3	0.39%		0.00%		0.00%		0.00%
69	9.00%		0.00%	9	18.37%	11	8.27%
767	100.00%	4	100.00%	49	100.00%	133	100.00%

FIG. 28D

Corpus Uteri		Esophagus		Eye, Nos		Eyeball	
22		24		6		1	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
5	6.94%	1	1.47%		0		0
3	4.17%	7	10.29%	4	28.57%	1	33.33%
	0.00%	2	2.94%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	2	2.94%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
12	16.67%	19	27.94%	2	14.29%		0.00%
5	6.94%		0.00%		0.00%		0.00%
2	2.78%	7	10.29%		0.00%		0.00%
8	11.11%	7	10.29%	1	7.14%	1	33.33%
	0.00%		0.00%		0.00%		0.00%
1	1.39%		0.00%		0.00%		0.00%
12	16.67%	7	10.29%	2	14.29%		0.00%
5	6.94%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
14	19.44%	6	8.82%	3	21.43%	1	33.33%
	0.00%		0.00%		0.00%		0.00%
5	6.94%	10	14.71%	2	14.29%		0.00%
72	100.00%	68	100.00%	14	100.00%	3	100.00%

FIG. 28E

Fallopian Tube		Extrahepatic Bile Ducts		Other Mouth		Intrahepatic Bile Ducts	
2		12		2		1	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
	0		0		0		0
1	33.33%	1	3.57%	2	33.33%	1	25.00%
1	33.33%		0.00%		0.00%		0.00%
	0.00%	2	7.14%		0.00%		0.00%
	0.00%	3	10.71%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	7	25.00%	1	16.67%	1	25.00%
1	33.33%		0.00%		0.00%		0.00%
	0.00%	3	10.71%		0.00%		0.00%
	0.00%	4	14.29%		0.00%	1	25.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	3.57%		0.00%		0.00%
	0.00%	6	21.43%	1	16.67%		0.00%
	0.00%		0.00%	1	16.67%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	3.57%	1	16.67%	1	25.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
3	100.00%	28	100.00%	6	100.00%	4	100.00%

FIG. 28F

Kidney		Appendix)-Colon		Larynx		Lip	
35		138		4		1	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
10	11.36%	3	0.80%		0		0
4	4.55%	63	16.71%	1	6.25%		0.00%
	0.00%	2	0.53%		0.00%		0.00%
	0.00%	2	0.53%		0.00%		0.00%
3	3.41%	12	3.18%		0.00%	1	33.33%
	0.00%		0.00%		0.00%		0.00%
31	35.23%	62	16.45%	4	25.00%	1	33.33%
	0.00%	1	0.27%		0.00%		0.00%
1	1.14%	9	2.39%		0.00%		0.00%
10	11.36%	65	17.24%	2	12.50%		0.00%
1	1.14%	1	0.27%	1	6.25%		0.00%
1	1.14%	4	1.06%	1	6.25%		0.00%
7	7.95%	57	15.12%	1	6.25%	1	33.33%
2	2.27%	1	0.27%		0.00%		0.00%
	0.00%	5	1.33%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
17	19.32%	32	8.49%	3	18.75%		0.00%
	0.00%	1	0.27%		0.00%		0.00%
1	1.14%	57	15.12%	3	18.75%		0.00%
88	100.00%	377	100.00%	16	100.00%	3	100.00%

FIG. 28G

Liver		Lung & Bronchus		Lymph Nodes		(Cerebral,Spinal)	
16		121		17		1	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
2	5.56%	9	2.56%		0		0
3	8.33%	46	13.11%		0.00%		0.00%
	0.00%	5	1.42%	4	11.43%		0.00%
1	2.78%	4	1.14%	13	37.14%		0.00%
	0.00%	9	2.56%		0.00%		0.00%
	0.00%	1	0.28%		0.00%		0.00%
11	30.56%	81	23.08%		0.00%	1	33.33%
	0.00%	3	0.85%		0.00%		0.00%
1	2.78%	12	3.42%		0.00%		0.00%
7	19.44%	41	11.68%	4	11.43%	1	33.33%
	0.00%	2	0.57%		0.00%		0.00%
	0.00%	5	1.42%	1	2.86%		0.00%
5	13.89%	42	11.97%	4	11.43%		0.00%
	0.00%	8	2.28%		0.00%	1	33.33%
	0.00%	4	1.14%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
4	11.11%	41	11.68%	4	11.43%		0.00%
	0.00%		0.00%		0.00%		0.00%
2	5.56%	38	10.83%	5	14.29%		0.00%
36	100.00%	351	100.00%	35	100.00%	3	100.00%

FIG. 28H

Nasal Cartilage)		(Excl. Retina, Eye, Nos)		Oropharynx		Other Endocrine Glands	
1		1		2		1	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
	0		0		0		0
	0.00%	1	25.00%	2	25.00%	1	33.33%
	0.00%		0.00%	1	12.50%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	100.00%		0.00%	2	25.00%	1	33.33%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	25.00%	1	12.50%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	25.00%		0.00%	1	33.33%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	25.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	2	25.00%		0.00%
1	100.00%	4	100.00%	8	100.00%	3	100.00%

FIG. 28I

Other Female Genital		Ovary		Pancreas		Penis & Scrotum	
3		99		143		1	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
	0	21	6.60%	1	0.30%		0
	0.00%	16	5.03%	23	6.89%		0.00%
	0.00%	8	2.52%	7	2.10%		0.00%
	0.00%	3	0.94%	3	0.90%		0.00%
	0.00%	6	1.89%	20	5.99%		0.00%
	0.00%		0.00%		0.00%		0.00%
2	20.00%	46	14.47%	108	32.34%		0.00%
1	10.00%	56	17.61%	2	0.60%		0.00%
1	10.00%	19	5.97%	8	2.40%		0.00%
	0.00%	31	9.75%	37	11.08%		0.00%
	0.00%		0.00%	1	0.30%		0.00%
1	10.00%	2	0.63%	5	1.50%		0.00%
2	20.00%	28	8.81%	37	11.08%		0.00%
	0.00%	24	7.55%	10	2.99%		0.00%
	0.00%	2	0.63%	6	1.80%		0.00%
	0.00%		0.00%	3	0.90%		0.00%
1	10.00%	29	9.12%	45	13.47%	1	50.00%
	0.00%		0.00%	1	0.30%		0.00%
2	20.00%	27	8.49%	17	5.09%	1	50.00%
10	100.00%	318	100.00%	334	100.00%	2	100.00%

FIG. 28J

Pituitary Gland		Pleura		Prostate Gland		Rectum	
1		1		22		21	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
	0		0	18	24.66%	1	1.64%
	0.00%		0.00%	6	8.22%	10	16.39%
	0.00%		0.00%	1	1.37%		0.00%
	0.00%		0.00%		0.00%	1	1.64%
	0.00%		0.00%	2	2.74%	4	6.56%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	50.00%	13	17.81%	15	24.59%
1	50.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	3	4.11%	1	1.64%
	0.00%		0.00%	10	13.70%	7	11.48%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	1.37%		0.00%
	0.00%		0.00%	7	9.59%	8	13.11%
1	50.00%		0.00%		0.00%	1	1.64%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	50.00%	10	13.70%	6	9.84%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	2	2.74%	7	11.48%
2	100.00%	2	100.00%	73	100.00%	61	100.00%

FIG. 28K

Renal Pelvis, Ureter		Peritoneum		Salivary Gland		Skin	
3		18		15		58	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
1	14.29%		0	2	4.08%	3	2.31%
	0.00%	4	10.53%	8	16.33%	25	19.23%
	0.00%	1	2.63%	2	4.08%		0.00%
	0.00%	1	2.63%	1	2.04%		0.00%
	0.00%		0.00%	1	2.04%	1	0.77%
	0.00%		0.00%		0.00%		0.00%
3	42.86%	6	15.79%	8	16.33%	11	8.46%
	0.00%	2	5.26%		0.00%		0.00%
1	14.29%		0.00%	1	2.04%	2	1.54%
1	14.29%	5	13.16%	5	10.20%	21	16.15%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	0.77%
1	14.29%	7	18.42%	9	18.37%	15	11.54%
	0.00%	2	5.26%	1	2.04%	2	1.54%
	0.00%	1	2.63%	1	2.04%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	7	18.42%	8	16.33%	41	31.54%
	0.00%		0.00%		0.00%		0.00%
	0.00%	2	5.26%	2	4.08%	8	6.15%
7	100.00%	38	100.00%	49	100.00%	130	100.00%

FIG. 28L

Small Intestine		Stomach		Testis		Thymus	
5		23		4		10	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
	0	2	3.23%		0	3	0.1
2	15.38%	7	11.29%		0.00%	7	23.33%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	3	4.84%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
3	23.08%	16	25.81%	3	27.27%	8	26.67%
	0.00%	2	3.23%	1	9.09%		0.00%
	0.00%	1	1.61%	1	9.09%		0.00%
1	7.69%	10	16.13%	1	9.09%	3	10.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	1.61%		0.00%		0.00%
4	30.77%	6	9.68%	2	18.18%	2	6.67%
	0.00%	4	6.45%	1	9.09%	3	10.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	7.69%	4	6.45%	2	18.18%	4	13.33%
	0.00%		0.00%		0.00%		0.00%
2	15.38%	6	9.68%		0.00%		0.00%
13	100.00%	62	100.00%	11	100.00%	30	100.00%

FIG. 28M

Thyroid Gland		Tongue		Unknown			
10		4		64		1	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
	0		0	2	1.25%		0
	0.00%	2	18.18%	13	8.13%	1	33.33%
	0.00%	1	9.09%	1	0.63%		0.00%
	0.00%		0.00%	2	1.25%		0.00%
2	9.52%		0.00%	3	1.88%		0.00%
	0.00%		0.00%		0.00%		0.00%
6	28.57%	4	36.36%	35	21.88%	1	33.33%
1	4.76%		0.00%	2	1.25%		0.00%
2	9.52%		0.00%	5	3.13%		0.00%
3	14.29%		0.00%	19	11.88%	1	33.33%
	0.00%		0.00%	2	1.25%		0.00%
	0.00%		0.00%	3	1.88%		0.00%
2	9.52%		0.00%	17	10.63%		0.00%
2	9.52%		0.00%	10	6.25%		0.00%
	0.00%		0.00%	1	0.63%		0.00%
	0.00%		0.00%		0.00%		0.00%
3	14.29%	3	27.27%	31	19.38%		0.00%
	0.00%		0.00%	1	0.63%		0.00%
	0.00%	1	9.09%	13	8.13%		0.00%
21	100.00%	11	100.00%	160	100.00%	3	100.00%

FIG. 28N

Urinary Bladder		Uterus, Nos		Vagina & Labia		Vulva, Nos	
19		14		3		1	
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type
3	4.62%		0		0		0
5	7.69%	1	2.22%	1	10.00%	1	25.00%
	0.00%	1	2.22%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
16	24.62%	6	13.33%	1	10.00%		0.00%
	0.00%	4	8.89%		0.00%		0.00%
8	12.31%	1	2.22%		0.00%		0.00%
9	13.85%	6	13.33%	1	10.00%	1	25.00%
1	1.54%		0.00%		0.00%		0.00%
1	1.54%		0.00%		0.00%		0.00%
5	7.69%	6	13.33%	2	20.00%	1	25.00%
	0.00%	1	2.22%	2	20.00%		0.00%
1	1.54%	2	4.44%	1	10.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
8	12.31%	8	17.78%	2	20.00%		0.00%
	0.00%	1	2.22%		0.00%		0.00%
8	12.31%	8	17.78%		0.00%	1	25.00%
65	100.00%	45	100.00%	10	100.00%	4	100.00%

FIG. 28O

(blank)		Grand Total		
16		1392		
Number of times biomarker flagged as target	% in tumor type	Number of times biomarker flagged as target	% in tumor type	IHC
3	5.45%	187	4.82%	Androgen Receptor
5	9.09%	411	10.60%	c - kit
	0.00%	45	1.16%	CD25
1	1.82%	40	1.03%	CD52
	0.00%	91	2.35%	COX - 2
	0.00%	1	0.03%	Cyclin D1
7	12.73%	731	18.86%	EGFR
4	7.27%	139	3.58%	ER
1	1.82%	143	3.69%	Her2/Neu
8	14.55%	483	12.45%	HSP90
	0.00%	13	0.34%	MLH1
	0.00%	41	1.06%	MSH2
4	7.27%	439	11.32%	PDGFR
3	5.45%	153	3.95%	PR
1	1.82%	33	0.85%	PTEN
	0.00%	4	0.10%	RRM1
10	18.18%	569	14.67%	SPARC
	0.00%	7	0.18%	Survivin
8	14.55%	348	8.97%	TOP2A
55	100.00%	3878	100.00%	Grand Total

FIG. 29

Biomarkers Tagged as Target in Order of Frequency

Number of times biomarker flagged as target	% in tumor type	IHC
3878	100.00%	Grand Total
731	18.85%	EGFR
569	14.67%	SPARC
483	12.45%	HSP90
439	11.32%	PDGFR
411	10.60%	c - kit
348	8.97%	TOP2A
187	4.82%	Androgen Receptor
153	3.95%	PR
143	3.69%	Her2/Neu
139	3.58%	ER
91	2.35%	COX - 2
45	1.16%	CD25
41	1.06%	MSH2
40	1.03%	CD52
33	0.85%	PTEN
13	0.34%	MLH1
7	0.18%	Survivin
4	0.10%	RRM1
1	0.03%	Cyclin D1

FIG. 30A

	Tumor Type					
	Accessory, Sinuses, Middle & Inner Ear		Adrenal Glands		Anal Canal & Anus	
Count of Case #	1		23		6	
Gene	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
ADA		0.00%	9	4.97%	2	4.26%
AR		0.00%	1	0.55%		0.00%
ASNS		0.00%	6	3.31%	1	2.13%
ASNS		0.00%		0.00%		0.00%
BRCA1		0.00%		0.00%		0.00%
BRCA2		0.00%		0.00%		0.00%
CDS2		0.00%	1	0.55%		0.00%
CDW52		0.00%		0.00%		0.00%
CES2		0.00%	4	2.21%	2	4.26%
DCK		0.00%	8	4.42%		0.00%
DNFR		0.00%		0.00%		0.00%
DNMT1		0.00%	8	4.42%	1	2.13%
DNMT3A		0.00%	8	4.42%	3	6.38%
DNMT3B	1	7.14%	13	7.18%	2	4.26%
EGFR		0.00%	2	1.10%	2	4.26%
EPHA2		0.00%	1	0.55%		0.00%
ERBB2		0.00%		0.00%		0.00%
ERCC3		0.00%		0.00%		0.00%
ESR1		0.00%		0.00%		0.00%
FLT1		0.00%	1	0.55%	1	2.13%
GART	1	7.14%	1	0.55%	1	2.13%
GARH1		0.00%		0.00%		0.00%
HIF1A	1	7.14%	9	4.97%	1	2.13%
HSP90AA1		0.00%		0.00%		0.00%
HSPCA		0.00%		0.00%		0.00%
IL2RA		0.00%		0.00%		0.00%
KDR		0.00%	1	0.55%		0.00%
KIT		0.00%	5	2.76%		0.00%
LCK		0.00%		0.00%		0.00%
MGMT	1	7.14%	5	2.76%	2	4.26%
MLH1		0.00%		0.00%		0.00%
MSH2		0.00%		0.00%		0.00%
NFKB1		0.00%	4	2.21%	1	2.13%
NFKB2	1	7.14%	1	0.55%	3	6.38%
NFKBIA	1	7.14%	5	2.76%	3	6.38%
PDGFC		0.00%	2	1.10%		0.00%
PDGFRA	1	7.14%		0.00%		0.00%
PDGFRB	1	7.14%	5	2.76%	2	4.26%
PGR		0.00%	5	2.76%		0.00%
PTEN		0.00%		0.00%		0.00%
PTGS2		0.00%		0.00%	1	2.13%
RARA		0.00%		0.00%		0.00%
RRM1		0.00%		0.00%		0.00%
RRM2		0.00%		0.00%		0.00%
RRM2B		0.00%	3	1.66%		0.00%
RXRG		0.00%		0.00%		0.00%
SPARC	1	7.14%	23	12.71%	1	2.13%
SRC		0.00%	1	0.55%	2	4.26%
SSTR1		0.00%	2	1.10%	2	4.26%
SSTR2		0.00%		0.00%		0.00%
SSTR3	1	7.14%	3	1.66%	2	4.26%
SSTR4		0.00%	1	0.55%	2	4.26%
SSTR5		0.00%	4	2.21%		0.00%
TOP1	1	7.14%	2	1.10%		0.00%
TOP2A	1	7.14%	9	4.97%	3	6.38%
TOP2B	1	7.14%	4	2.21%	1	2.13%
TYMS		0.00%		0.00%		0.00%
VDR	1	7.14%	1	0.55%		0.00%
VEGF		0.00%		0.00%	2	4.26%
VEGFA		0.00%	4	2.21%	2	4.26%
VHL		0.00%	6	3.31%		0.00%
YES1		0.00%	3	1.66%		0.00%
ZAP70		0.00%		0.00%		0.00%
Grand Total	14	100.00%	181	100.00%	47	100.00%

FIG. 30B

Appendix		Blood, Bone Marrow, & Hematopoietic Sys		Bones & Joints		Brain, & Cranial Nerves, & Spinal Cord, (Excl. Ventricle, Cerebellum)	
8		1		19		8	
Number of times biomarker flagged as *	% in tumor type	Number of times biomarker flagged as *	% in tumor type	Number of times biomarker flagged as *	% in tumor type	Number of times biomarker flagged as *	% in tumor type
3	2.94%	1	12.50%	11	4.78%	3	4.41%
	0.00%		0.00%	1	0.43%		0.00%
1	0.98%		0.00%	6	2.61%	3	4.41%
	0.00%		0.00%	2	0.87%		0.00%
6	5.88%		0.00%	3	1.30%		0.00%
3	2.94%		0.00%	1	0.43%		0.00%
	0.00%		0.00%	2	0.87%		0.00%
	0.00%		0.00%	2	0.87%	1	1.47%
2	1.96%	1	12.50%	3	1.30%	2	2.94%
	0.00%		0.00%	5	2.17%	1	1.47%
1	0.98%		0.00%	1	0.43%		0.00%
	0.00%		0.00%	6	2.61%	2	2.94%
	0.00%		0.00%	10	4.35%	2	2.94%
	0.00%		0.00%	10	4.35%	3	4.41%
2	1.96%		0.00%	2	0.87%	2	2.94%
3	2.94%		0.00%	1	0.43%	1	1.47%
	0.00%		0.00%	1	0.43%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
2	1.96%		0.00%	4	1.74%	2	2.94%
3	2.94%	1	12.50%	8	3.48%	3	4.41%
	0.00%		0.00%		0.00%		0.00%
7	6.86%		0.00%	7	3.04%	2	2.94%
	0.00%		0.00%	3	1.30%		0.00%
	0.00%		0.00%	1	0.43%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	0.98%		0.00%	1	0.43%		0.00%
	0.00%	1	12.50%	5	2.17%	2	2.94%
	0.00%		0.00%		0.00%		0.00%
2	1.96%		0.00%	8	3.48%	1	1.47%
	0.00%		0.00%		0.00%		0.00%
1	0.98%		0.00%		0.00%		0.00%
4	3.92%		0.00%	4	1.74%	2	2.94%
2	1.96%	1	12.50%	8	3.48%	4	5.88%
2	1.96%		0.00%	14	6.09%	3	4.41%
2	1.96%		0.00%	1	0.43%		0.00%
2	1.96%		0.00%	3	1.30%	3	4.41%
7	6.86%	1	12.50%	7	3.04%	3	4.41%
	0.00%		0.00%	2	0.87%		0.00%
	0.00%		0.00%	2	0.87%		0.00%
2	1.96%		0.00%	6	2.61%	1	1.47%
	0.00%	1	12.50%		0.00%		0.00%
3	2.94%		0.00%	1	0.43%		0.00%
4	3.92%		0.00%	1	0.43%		0.00%
2	1.96%		0.00%	3	1.30%	1	1.47%
	0.00%		0.00%		0.00%		0.00%
3	2.94%	1	12.50%	10	4.35%	3	4.41%
2	1.96%		0.00%	1	0.43%	1	1.47%
2	1.96%		0.00%	3	1.30%		0.00%
	0.00%		0.00%	5	2.17%	1	1.47%
6	5.88%		0.00%	7	3.04%	1	1.47%
1	0.98%		0.00%	4	1.74%		0.00%
	0.00%		0.00%	4	1.74%	1	1.47%
3	2.94%		0.00%	7	3.04%	3	4.41%
4	3.92%		0.00%	6	2.61%	2	2.94%
2	1.96%		0.00%	12	5.22%	3	4.41%
4	3.92%		0.00%	2	0.87%		0.00%
3	2.94%		0.00%	7	3.04%	2	2.94%
	0.00%		0.00%	3	1.30%	1	1.47%
3	2.94%		0.00%	5	2.17%	3	4.41%
2	1.96%		0.00%	2	0.87%		0.00%
	0.00%		0.00%	2	0.87%	1	1.47%
	0.00%		0.00%		0.00%		0.00%
102	100.00%	8	100.00%	230	100.00%	68	100.00%

FIG. 30C

Breast		Cerebellum		Cervix Uteri		Connective & Soft Tissue	
183		1		11		34	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
78	4.19%	1	7.14%	4	4.12%	15	4.34%
41	2.20%		0.00%		0.00%		0.00%
10	0.54%		0.00%		0.00%	6	1.73%
	0.00%		0.00%		0.00%		0.00%
9	0.48%		0.00%		0.00%	6	1.73%
27	1.44%		0.00%		0.00%	3	0.87%
1	0.05%		0.00%		0.00%		0.00%
4	0.21%		0.00%		0.00%	2	0.58%
74	3.98%		0.00%	3	3.09%	10	2.89%
36	1.93%	1	7.14%	4	4.12%	7	2.02%
20	1.07%		0.00%		0.00%	2	0.58%
25	1.34%		0.00%	3	3.09%	15	4.34%
25	1.34%	1	7.14%	5	5.15%	9	2.60%
27	1.45%	1	7.14%	7	7.22%	19	5.49%
11	0.59%		0.00%		0.00%	3	0.87%
	0.00%		0.00%		0.00%	2	0.58%
27	1.45%		0.00%	1	1.03%		0.00%
	0.00%		0.00%		0.00%		0.00%
5	2.69%		0.00%		0.00%		0.00%
19	1.02%		0.00%		0.00%	3	0.87%
46	2.47%		0.00%	6	6.19%	17	4.91%
	0.00%		0.00%		0.00%		0.00%
37	1.98%		0.00%	1	1.03%	17	4.91%
6	3.40%		0.00%	3	3.09%	7	2.02%
23	1.24%		0.00%	1	1.03%	2	0.58%
	0.00%		0.00%		0.00%		0.00%
12	0.64%		0.00%		0.00%		0.00%
36	1.61%	1	7.14%		0.00%	2	0.58%
1	0.05%		0.00%		0.00%		0.00%
81	4.34%		0.00%	2	2.06%	15	4.34%
2	0.11%		0.00%		0.00%		0.00%
35	1.88%		0.00%		0.00%	1	0.29%
49	2.63%		0.00%	4	4.12%	9	2.60%
56	3.01%	1	7.14%	1	1.03%	10	2.89%
80	4.30%	1	7.14%	4	4.12%	13	3.76%
3	0.16%		0.00%		0.00%	2	0.58%
9	0.48%		0.00%		0.00%	3	0.87%
51	2.74%		0.00%		0.00%	9	2.60%
12	0.64%		0.00%		0.00%		0.00%
2	0.11%		0.00%		0.00%	1	0.29%
14	0.75%		0.00%		0.00%	6	1.73%
	0.00%		0.00%		0.00%		0.00%
4	0.21%		0.00%		0.00%	4	1.16%
27	1.45%		0.00%		0.00%	3	0.87%
17	0.91%	1	7.14%		0.00%	5	1.44%
3	0.16%		0.00%		0.00%	2	0.58%
38	2.04%		0.00%	2	2.06%	16	4.62%
47	2.52%	1	7.14%	1	1.03%	5	1.44%
45	2.42%	1	7.14%	3	3.09%	5	1.44%
19	1.02%		0.00%	1	1.03%	5	1.44%
64	3.44%	1	7.14%	7	7.22%	13	3.76%
38	2.04%	1	7.14%	2	2.06%	4	1.16%
26	1.34%	1	7.14%		0.00%	4	1.16%
58	3.11%		0.00%	6	6.19%	18	5.20%
71	3.81%		0.00%	30	30.31%	15	4.34%
66	3.01%	1	7.14%	1	1.03%	12	3.47%
38	2.04%		0.00%		0.00%	1	0.29%
86	4.62%		0.00%	6	6.19%	11	3.18%
26	1.50%		0.00%	2	2.06%	4	0.58%
19	1.02%		0.00%	3	3.09%	4	1.16%
3	0.16%		0.00%		0.00%	3	0.87%
13	0.70%		0.00%	2	2.06%	3	0.87%
1	0.05%		0.00%		0.00%		0.00%
1863	100.00%	14	100.00%	97	100.00%	346	100.00%

FIG. 30D

Corpus Uteri		Esophagus		Eye, Nos		Eyeball	
13		18		4		1	
Number of times biomarker flagged as type	% in tumor type	Number of times biomarker flagged as type	% in tumor type	Number of times biomarker flagged as type	% in tumor type	Number of times biomarker flagged as type	% in tumor type
11	7.80%	7	4.14%	2	5.00%	1	6.67%
	0.00%	2	1.18%		0.00%		0.00%
	0.00%	2	1.18%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	2.50%	1	6.67%
	0.00%		0.00%		0.00%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	2	1.18%	1	2.50%		0.00%
4	2.84%	6	3.55%		0.00%		0.00%
	0.00%		0.00%	1	2.50%		0.00%
6	4.26%	1	0.59%		0.00%		0.00%
6	4.26%	6	3.55%	1	2.50%		0.00%
8	5.67%	11	6.51%		0.00%		0.00%
	0.00%	8	4.73%		0.00%		0.00%
	0.00%	1	0.59%		0.00%		0.00%
1	0.71%	3	1.78%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
2	1.42%		0.00%		0.00%		0.00%
	0.00%	2	1.18%		0.00%	1	6.67%
9	6.38%	4	2.37%	1	2.50%		0.00%
1	0.71%		0.00%		0.00%		0.00%
9	6.38%	6	3.55%		0.00%		0.00%
4	2.84%	4	2.37%		0.00%	1	6.67%
4	2.84%	2	1.18%	1	2.50%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
7	4.96%	11	6.51%	3	7.50%	1	6.67%
1	0.71%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
4	2.84%	3	1.78%	1	2.50%	1	6.67%
6	4.26%	5	2.96%	1	2.50%		0.00%
9	6.38%	9	5.33%	3	7.50%	1	6.67%
1	0.71%	1	0.59%	1	2.50%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	2	1.18%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	0.59%		0.00%		0.00%
	0.00%	5	2.96%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	3	1.78%	3	7.50%	1	6.67%
	0.00%		0.00%	1	2.50%	1	6.67%
	0.00%	1	0.59%	1	2.50%		0.00%
	0.00%		0.00%		0.00%		0.00%
2	1.42%	4	2.37%	3	7.50%		0.00%
4	2.84%	7	4.14%	3	7.50%	1	6.67%
1	0.71%	1	0.59%		0.00%		0.00%
2	1.42%	1	0.59%		0.00%		0.00%
4	2.84%	10	5.92%	2	5.00%		0.00%
1	0.71%	1	0.59%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
7	4.96%	9	5.33%		0.00%		0.00%
6	4.26%	9	5.33%	3	7.50%		0.00%
5	3.55%	10	5.92%		0.00%	1	6.67%
	0.00%	1	0.59%	2	5.00%	1	6.67%
9	6.38%	2	1.18%		0.00%		0.00%
1	0.71%	3	1.78%		0.00%	1	6.67%
2	1.42%	4	2.37%	1	2.50%	1	6.67%
1	0.71%	2	1.18%		0.00%		0.00%
1	0.71%	3	1.18%		0.00%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
141	100.00%	169	100.00%	40	100.00%	15	100.00%

FIG. 30E

Fallopian Tube		Gallbladder & Extrahepatic Bile Ducts		Gum, Floor Of Mouth, & Other Mouth		Intrahepatic Bile Ducts	
2		3		1		1	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
1	9.09%	1	6.25%		0.00%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	6.25%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	3	18.75%		0.00%		0.00%
	0.00%		0.00%	1	7.14%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	9.09%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	7.14%		0.00%
	0.00%		0.00%	1	7.14%		0.00%
	0.00%	1	6.25%		0.00%	1	6.67%
	0.00%	1	6.25%		0.00%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	9.09%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	9.09%	1	6.25%	1	7.14%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	7.14%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	7.14%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	7.14%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
2	18.18%	2	12.50%	1	7.14%	1	6.67%
	0.00%		0.00%	1	7.14%		0.00%
	0.00%	1	6.25%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	6.25%	1	7.14%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	6.67%
	0.00%		0.00%		0.00%	1	6.67%
1	9.09%		0.00%	1	7.14%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	6.67%
	0.00%		0.00%		0.00%	1	6.67%
	0.00%		0.00%		0.00%	1	6.67%
	0.00%	1	6.25%	1	7.14%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
1	9.09%		0.00%	1	7.14%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
2	18.18%		0.00%	1	7.14%		0.00%
1	9.09%	2	12.50%		0.00%		0.00%
	0.00%	1	6.25%		0.00%	1	6.67%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
11	100.00%	16	100.00%	14	100.00%	15	100.00%

FIG. 30F

Kidney		Large Intestine, (Excl. Appendix)-Colon		Larynx		Lip	
20		91		3		0	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
17	9.83%	23	2.72%	2	4.65%		
2	1.16%	2	0.24%		0.00%		
	0.00%	5	0.59%	1	2.33%		
	0.00%		0.00%		0.00%		
1	0.58%	12	1.42%		0.00%		
	0.00%	12	1.42%		0.00%		
	0.00%		0.00%		0.00%		
	0.00%	1	0.12%		0.00%		
1	0.58%	1	0.12%		0.00%		
7	4.05%	5	0.59%		0.00%		
4	2.31%	4	0.47%		0.00%		
	0.00%	3	0.35%		0.00%		
13	7.51%	29	3.43%	2	4.65%		
20	9.79%	23	2.72%	2	4.65%		
8	4.62%	24	2.84%	2	4.65%		
	0.00%	2	0.24%		0.00%		
	0.00%	1	0.12%		0.00%		
	0.00%		0.00%		0.00%		
	0.00%	1	0.12%		0.00%		
2	1.16%	23	2.72%	1	2.33%		
7	4.05%	40	4.73%	2	4.65%		
	0.00%		0.00%		0.00%		
4	2.31%	37	4.37%	2	4.65%		
1	0.58%	16	1.89%	1	2.33%		
	0.00%	5	0.59%		0.00%		
	0.00%	1	0.12%		0.00%		
	0.00%	7	0.83%		0.00%		
1	0.58%	4	0.47%		0.00%		
	0.00%	1	0.12%		0.00%		
11	6.36%	58	6.87%	2	4.65%		
	0.00%	2	0.24%		0.00%		
1	0.58%	2	0.24%		0.00%		
1	0.58%	32	3.78%	2	4.65%		
6	3.47%	24	2.84%	3	6.98%		
5	2.89%	36	4.26%	2	4.65%		
	0.00%	3	0.35%		0.00%		
2	1.16%	9	1.06%		0.00%		
8	4.62%	39	4.61%		0.00%		
	0.00%		0.00%		0.00%		
	0.00%	1	0.12%		0.00%		
	0.00%	3	0.35%	1	2.33%		
	0.00%		0.00%		0.00%		
	0.00%	4	0.47%		0.00%		
1	0.58%	24	2.84%		0.00%		
2	1.16%	9	1.06%		0.00%		
	0.00%		0.00%		0.00%		
11	6.36%	26	3.07%	1	2.33%		
2	1.16%	5	0.59%		0.00%		
2	1.16%	24	2.84%		0.00%		
	0.00%	7	0.83%		0.00%		
14	8.09%	56	6.62%	1	2.33%		
3	1.73%	20	2.36%		0.00%		
1	0.58%	16	1.89%		0.00%		
1	0.58%	15	1.77%	2	4.65%		
2	1.16%	42	4.96%	2	4.65%		
2	1.16%	26	3.07%	1	2.33%		
	0.00%	13	1.54%		0.00%		
2	1.16%	3	0.35%	3	6.98%		
4	2.31%	18	2.13%		0.00%		
3	1.73%	38	4.49%	2	4.65%		
9	5.20%	4	0.47%	1	2.33%		
	0.00%	2	0.24%	1	2.33%		
	0.00%		0.00%		0.00%		
173	100.00%	846	100.00%	43	100.00%		

FIG. 30G

Liver		Lung & Bronchus		Lymph Nodes		Meninges (Cerebral,Spinal)	
7		61		14		6	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
2	3.33%	31	3.46%	7	5.30%		
	0.00%		0.00%		0.00%		
	0.00%	1	0.11%	3	2.27%		
	0.00%		0.00%		0.00%		
	0.00%	2	0.22%	1	0.76%		
	0.00%	2	0.22%	2	1.52%		
	0.00%		0.00%	2	1.52%		
	0.00%		0.00%	4	3.03%		
4	6.67%	18	2.00%	4	3.03%		
	0.00%	13	1.45%	6	4.55%		
	0.00%	2	0.22%	2	1.52%		
1	1.67%	12	1.34%	1	0.76%		
2	3.33%	39	4.34%	6	4.55%		
2	3.33%	49	5.46%	2	1.52%		
	0.00%	13	1.45%	2	1.52%		
	0.00%	2	0.22%		0.00%		
1	1.67%	6	0.67%		0.00%		
	0.00%		0.00%		0.00%		
	0.00%	1	0.11%		0.00%		
	0.00%	4	0.45%		0.00%		
2	3.33%	48	5.12%	6	4.55%		
	0.00%		0.00%		0.00%		
3	5.00%	37	4.12%	3	2.27%		
	0.00%	13	1.34%	4	3.03%		
1	1.67%	1	0.11%	1	0.76%		
	0.00%	1	0.11%		0.00%		
	0.00%	2	0.22%	1	0.76%		
	0.00%	13	1.34%		0.00%		
	0.00%		0.00%		0.00%		
3	5.00%	36	4.01%	3	2.27%		
1	1.67%		0.00%		0.00%		
	0.00%	1	0.11%		0.00%		
2	3.33%	62	6.79%		0.00%		
2	3.33%	36	4.01%	6	4.55%		
1	1.67%	46	5.12%	4	3.03%		
	0.00%	4	0.45%		0.00%		
1	1.67%	3	0.33%		0.00%		
2	3.33%	10	1.11%		0.00%		
	0.00%		0.00%		0.00%		
	0.00%	1	0.11%		0.00%		
	0.00%	6	0.67%		0.00%		
	0.00%		0.00%	4	3.79%		
	0.00%	2	0.22%	1	0.76%		
	0.00%	3	0.33%	6	4.55%		
2	3.33%	24	2.67%		0.00%		
	0.00%	4	0.45%		0.00%		
3	5.00%	14	1.56%	1	0.76%		
2	3.33%	6	0.67%	4	3.03%		
	0.00%	2	0.22%	2	1.52%		
1	1.67%	14	1.56%	1	1.52%		
3	5.00%	43	4.79%	11	8.33%		
	0.00%	18	2.00%	7	5.30%		
1	1.67%	16	1.78%	3	2.27%		
3	5.00%	39	4.34%	6	4.55%		
2	3.33%	42	4.68%	4	3.03%		
2	3.33%	50	5.46%	7	5.30%		
	0.00%	1	0.11%	1	0.76%		
3	5.00%	33	3.67%	2	1.52%		
3	5.00%	7	0.78%		0.00%		
1	1.67%	13	1.45%	1	0.76%		
	0.00%	13	1.45%		0.00%		
2	3.33%	7	0.78%		0.00%		
	0.00%		0.00%		0.00%		
60	100.00%	898	100.00%	132	100.00%		

FIG. 30H

Nasal Cavity (Including Nasal Cartilage)		Orbit & Lacrimal Gland, (Excl. Retina, Eye, Nos)		Oropharynx		Other Endocrine Glands	
1		0		1		1	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
	0.00%				0.00%	1	10.00%
	0.00%				0.00%		0.00%
1	5.88%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
1	5.88%				0.00%	1	10.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
1	5.88%			1	11.11%		0.00%
	0.00%			1	11.11%		0.00%
1	5.88%				0.00%	1	10.00%
	0.00%				0.00%		0.00%
1	5.88%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
1	5.88%			1	11.11%	1	10.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%			1	11.11%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%	1	10.00%
	0.00%				0.00%		0.00%
	0.00%			1	11.11%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
1	5.88%			1	11.11%	1	10.00%
1	5.88%				0.00%		0.00%
1	5.88%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
1	5.88%				0.00%		0.00%
	0.00%				0.00%		0.00%
1	5.88%				0.00%	1	10.00%
	0.00%				0.00%		0.00%
1	5.88%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%			1	11.11%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
1	5.88%				0.00%	1	10.00%
1	5.88%				0.00%		0.00%
	0.00%				0.00%		0.00%
1	5.88%				0.00%	1	10.00%
	0.00%			1	11.11%		0.00%
1	5.88%			1	11.11%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%	1	10.00%
1	5.88%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
	0.00%				0.00%		0.00%
17	100.00%			9	100.00%	10	100.00%

FIG. 30I

Other Female Genital		Ovary		Pancreas		Penis & Scrotum	
3		74		50		1	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
2	5.88%	23	2.77%	18	3.76%	1	8.33%
	0.00%	1	0.09%	1	0.21%		0.00%
	0.00%	1	0.12%	28	5.85%		0.00%
	0.00%		0.00%	1	0.21%		0.00%
	0.00%	1	0.12%	1	0.21%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	2.94%	14	1.68%	16	3.34%		0.00%
2	5.88%	27	3.25%	15	3.13%	1	8.33%
	0.00%	1	0.12%		0.00%		0.00%
1	2.94%	12	1.44%	13	2.71%		0.00%
2	5.88%	17	2.05%	10	2.09%	1	8.33%
2	5.88%	44	5.29%	4	0.84%	1	8.33%
	0.00%	5	0.60%	9	1.88%		0.00%
	0.00%	1	0.12%	4	0.84%		0.00%
	0.00%	11	1.32%	1	0.21%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	19	2.29%		0.00%		0.00%
	0.00%		0.00%	1	0.21%		0.00%
2	5.88%	46	5.53%	29	6.05%	1	8.33%
	0.00%		0.00%		0.00%		0.00%
2	5.88%	46	5.53%	31	6.47%	1	8.33%
	0.00%	20	2.41%	9	1.88%		0.00%
	0.00%	12	1.44%	8	1.67%		0.00%
	0.00%	2	0.24%		0.00%		0.00%
	0.00%	3	0.36%		0.00%		0.00%
	0.00%	2	0.24%	4	0.84%		0.00%
	0.00%		0.00%		0.00%		0.00%
2	5.88%	46	5.53%	29	6.22%	1	8.33%
	0.00%	2	0.24%		0.00%		0.00%
	0.00%	1	0.12%		0.00%		0.00%
	0.00%	39	4.69%	4	0.84%	1	8.33%
2	5.88%	28	5.90%	18	3.97%		0.00%
1	2.94%	24	2.89%	21	4.38%		0.00%
	0.00%	4	0.48%		0.00%		0.00%
	0.00%		0.00%	9	1.88%		0.00%
	0.00%	2	0.24%	17	3.55%		0.00%
	0.00%	2	0.24%		0.00%		0.00%
	0.00%	1	0.12%	1	0.21%		0.00%
	0.00%	3	0.36%	22	4.59%		0.00%
	0.00%	1	0.12%		0.00%		0.00%
	0.00%	1	0.12%		0.00%		0.00%
	0.00%		0.00%	4	0.84%		0.00%
	0.00%	3	0.36%	4	0.84%		0.00%
	0.00%	1	0.12%		0.00%		0.00%
1	2.94%	16	1.93%	18	3.76%		0.00%
	0.00%	1	0.12%	5	1.04%		0.00%
	0.00%	5	0.60%	3	0.63%		0.00%
	0.00%	3	0.36%	4	0.84%		0.00%
	0.00%	24	2.89%	3	0.63%	1	8.33%
	0.00%	10	1.20%	2	0.42%		0.00%
	0.00%	2	0.24%	1	0.21%		0.00%
2	5.88%	36	4.34%	8	1.67%		0.00%
2	5.88%	37	4.46%	18	3.76%	1	8.33%
2	5.88%	59	7.10%	31	6.47%	1	8.33%
	0.00%	2	0.24%		0.00%		0.00%
2	5.88%	56	6.74%	22	4.59%		0.00%
1	2.94%	26	3.13%		0.00%		0.00%
1	2.94%	27	3.25%	1	0.21%	1	8.33%
	0.00%	3	0.36%		0.00%		0.00%
2	5.88%	18	2.17%	7	1.46%		0.00%
	0.00%		0.00%		0.00%		0.00%
34	100.00%	831	100.00%	479	100.00%	12	100.00%

FIG. 30J

Pituitary Gland		Pleura		Prostate Gland		Rectum	
1		1		14		14	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
	0.00%		0.00%	3	2.73%	5	4.27%
1	10.00%		0.00%	6	5.45%	1	0.85%
1	10.00%		0.00%		0.00%	1	0.85%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	6.67%		0.00%		0.00%
	0.00%	1	6.67%		0.00%	1	0.85%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	10.00%		0.00%	1	0.91%	2	1.71%
	0.00%		0.00%	3	2.73%		0.00%
	0.00%	1	6.67%		0.00%		0.00%
	0.00%		0.00%	4	3.64%	3	2.56%
	0.00%	1	6.67%	5	4.55%	5	4.27%
	0.00%		0.00%	8	7.27%	5	4.27%
	0.00%		0.00%	1	0.91%	2	1.71%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	0.85%
	0.00%		0.00%		0.00%	1	0.85%
1	10.00%		0.00%		0.00%		0.00%
	0.00%	1	6.67%		0.00%	2	1.71%
	0.00%		0.00%	7	6.36%	5	4.27%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	2	1.82%	5	4.27%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	2	1.82%	2	1.71%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	0.91%		0.00%
	0.00%		0.00%	2	1.82%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	6	5.45%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	4	3.64%	4	3.42%
1	10.00%	1	6.67%	4	3.64%	7	5.98%
1	10.00%		0.00%	4	3.64%	5	4.27%
	0.00%		0.00%		0.00%	1	0.85%
	0.00%		0.00%		0.00%	1	0.85%
	0.00%	1	6.67%	1	0.91%	4	3.42%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	6.67%		0.00%	1	0.85%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	6.67%		0.00%	1	0.85%
	0.00%	1	6.67%		0.00%		0.00%
1	10.00%	1	6.67%	1	0.91%	3	2.56%
	0.00%		0.00%	1	0.91%		0.00%
	0.00%	1	6.67%	5	4.55%	6	5.13%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	4	3.64%	1	0.85%
	0.00%	1	6.67%	1	0.91%		0.00%
1	10.00%	1	6.67%	6	5.45%	6	5.13%
	0.00%		0.00%	4	3.64%	3	2.56%
	0.00%		0.00%	2	1.82%	1	0.85%
	0.00%		0.00%	5	4.55%	6	5.13%
	0.00%		0.00%	5	4.55%	8	6.84%
1	10.00%		0.00%	9	8.18%	2	1.71%
	0.00%	1	6.67%		0.00%	1	0.85%
	0.00%		0.00%	1	0.91%	1	0.85%
1	10.00%		0.00%		0.00%	8	6.84%
	0.00%		0.00%		0.00%	4	3.42%
	0.00%		0.00%	2	1.82%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
10	100.00%	15	100.00%	110	100.00%	117	100.00%

FIG. 30K

Renal Pelvis, Ureter		Retroperitoneum & Peritoneum		Salivary Gland		Skin	
1		13		11		41	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
1	7.14%	5	4.20%	3	2.03%	88	4.72%
	0.00%		0.00%	2	1.35%	2	0.36%
	0.00%	3	2.52%	3	2.03%	8	1.45%
	0.00%		0.00%		0.00%		0.00%
	0.00%	2	1.68%		0.00%	23	4.17%
	0.00%	1	0.84%		0.00%	14	2.54%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	0.18%
	0.00%	4	3.36%	7	4.73%	9	1.63%
	0.00%	2	1.68%	2	1.35%	4	0.73%
	0.00%	1	0.84%	1	0.68%	17	3.08%
	0.00%	3	2.52%	7	4.73%	3	0.54%
	0.00%	2	1.68%	2	1.35%	11	2.00%
1	7.14%	4	3.36%	4	2.70%	6	1.09%
1	7.14%	1	0.84%		0.00%	4	0.73%
1	7.14%	1	0.84%		0.00%	8	1.45%
	0.00%		0.00%		0.00%	2	0.36%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	2	1.35%	17	3.08%
1	7.14%	2	1.68%	6	4.05%	15	2.72%
	0.00%		0.00%		0.00%		0.00%
1	7.14%	5	4.20%		0.00%	8	1.45%
	0.00%		0.00%		0.00%	2	0.36%
	0.00%	2	1.68%	2	1.35%	5	0.91%
	0.00%	1	0.84%		0.00%	1	0.18%
	0.00%		0.00%		0.00%	3	0.54%
	0.00%	1	0.84%	3	2.03%	2	0.36%
	0.00%		0.00%		0.00%		0.00%
1	7.14%	5	4.20%	6	4.05%	25	4.54%
	0.00%		0.00%		0.00%	1	0.18%
	0.00%	1	0.84%		0.00%	3	0.54%
1	7.14%	3	2.52%	4	2.70%	12	2.18%
	0.00%	5	4.20%	2	1.35%	13	2.36%
	0.00%	3	2.52%		0.00%	10	1.82%
	0.00%	4	3.36%		0.00%	6	1.09%
	0.00%	2	1.68%		0.00%	7	1.27%
	0.00%	2	1.68%		0.00%	21	3.81%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	0.84%		0.00%	2	0.36%
	0.00%	2	1.68%	2	1.35%	5	0.91%
	0.00%		0.00%		0.00%		0.00%
	0.00%	2	1.68%		0.00%	20	3.63%
	0.00%	2	1.68%		0.00%	27	4.90%
	0.00%	2	1.68%		0.00%	12	2.18%
	0.00%		0.00%		0.00%		0.00%
	0.00%	4	3.36%	6	4.05%	18	3.27%
	0.00%	1	0.84%	4	2.70%	14	2.54%
	0.00%		0.00%	2	1.35%	2	0.36%
	0.00%	2	1.68%	1	0.68%	16	2.90%
1	7.14%	5	4.20%	5	3.38%	16	2.90%
1	7.14%	2	1.68%	2	1.35%	7	1.27%
	0.00%	1	0.84%		0.00%	2	0.36%
1	7.14%	1	0.84%	10	6.76%	12	2.18%
1	7.14%	4	3.36%	6	4.05%	15	2.72%
	0.00%	3	2.52%	3	2.03%	8	1.45%
	0.00%	2	1.68%		0.00%	14	2.54%
1	7.14%	2	1.68%	3	2.03%	14	2.54%
	0.00%	1	0.84%	2	1.35%	10	1.82%
	0.00%		0.00%	2	1.35%	8	1.45%
	0.00%		0.00%		0.00%	2	0.36%
1	7.14%		0.00%	2	1.35%	5	0.91%
	0.00%		0.00%		0.00%	1	0.18%
14	100.00%	119	100.00%	148	100.00%	551	100.00%

FIG. 30L

Small Intestine		Stomach		Testis		Thymus	
2		13		3		6	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
2	10.53%	6	6.15%	3	7.14%	4	6.35%
	0.00%	2	1.54%		0.00%	1	1.59%
	0.00%	1	0.77%	1	2.38%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	5.26%		0.00%	1	2.38%		0.00%
	0.00%	2	1.54%	1	2.38%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	0.77%	1	2.38%	1	1.59%
	0.00%	1	0.77%		0.00%		0.00%
	0.00%		0.00%		0.00%	2	3.17%
	0.00%	2	1.54%		0.00%		0.00%
	0.00%	4	3.08%	2	4.76%		0.00%
	0.00%	8	6.15%	1	2.38%		0.00%
	0.00%	2	1.54%	1	2.38%	1	1.59%
	0.00%		0.00%	1	2.38%		0.00%
	0.00%		0.00%	2	4.76%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	2	1.54%	1	2.38%		0.00%
	0.00%		0.00%	1	2.38%		0.00%
	0.00%	2	1.54%	1	2.38%	1	1.59%
	0.00%		0.00%		0.00%		0.00%
2	10.53%	5	3.85%	2	4.76%	5	7.94%
	0.00%	2	1.54%		0.00%	1	1.59%
	0.00%	1	0.77%		0.00%	2	3.17%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	0.77%	1	2.38%		0.00%
1	5.26%	1	0.77%		0.00%	3	4.76%
	0.00%		0.00%		0.00%		0.00%
2	10.53%	7	5.38%	1	2.38%	2	3.17%
	0.00%	1	0.77%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	4	3.08%		0.00%	4	6.35%
	0.00%	6	4.62%		0.00%	3	4.76%
1	5.26%	5	3.85%	2	4.76%	3	4.76%
	0.00%		0.00%		0.00%		0.00%
2	10.53%		0.00%		0.00%	1	1.59%
	0.00%	3	2.31%	2	4.76%	1	1.59%
	0.00%	1	0.77%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	2	1.54%	1	2.38%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	0.77%		0.00%		0.00%
2	10.53%	3	2.31%		0.00%	4	6.35%
	0.00%	2	1.54%		0.00%		0.00%
	0.00%	1	0.77%		0.00%		0.00%
	0.00%	1	0.77%	1	2.38%	1	1.59%
	0.00%	3	2.31%		0.00%	1	1.59%
	0.00%	2	1.54%	1	2.38%	2	3.17%
	0.00%	2	1.54%		0.00%		0.00%
1	5.26%	8	6.15%	2	4.76%	2	3.17%
	0.00%	5	3.85%	1	2.38%		0.00%
	0.00%	2	1.54%		0.00%		0.00%
2	10.53%	6	4.62%	3	7.14%	4	6.35%
1	5.26%	8	6.15%	1	2.38%	1	1.59%
2	10.53%	4	3.08%	1	2.38%	5	7.94%
	0.00%		0.00%	2	4.76%	4	6.35%
	0.00%	1	0.77%	2	4.76%	3	4.76%
	0.00%	3	2.31%	1	2.38%		0.00%
	0.00%	3	2.31%	1	2.38%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	0.77%		0.00%	1	1.59%
	0.00%		0.00%		0.00%		0.00%
19	100.00%	130	100.00%	42	100.00%	63	100.00%

FIG. 30M

Thyroid Gland		Tongue		Unknown		Unspecified Digest. Organs	
6		2		37		0	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
5	4.55%	1	5.56%	19	5.26%		
	0.00%		0.00%		0.00%		
2	1.82%		0.00%	3	0.83%		
	0.00%		0.00%		0.00%		
1	0.91%		0.00%	3	0.83%		
2	1.82%		0.00%	5	1.39%		
	0.00%		0.00%		0.00%		
	0.00%		0.00%	3	0.83%		
2	1.82%		0.00%	9	2.50%		
	0.00%	1	5.56%	10	2.78%		
	0.00%		0.00%	3	0.83%		
1	0.91%	1	5.56%	7	1.94%		
2	1.82%	1	5.56%	12	3.33%		
2	1.82%	1	5.56%	14	3.89%		
3	2.73%		0.00%	5	1.39%		
	0.00%		0.00%		0.00%		
2	1.82%		0.00%	3	0.83%		
	0.00%		0.00%		0.00%		
1	0.91%		0.00%	1	0.28%		
1	0.91%		0.00%	6	1.67%		
3	2.73%		0.00%	14	3.89%		
	0.00%		0.00%		0.00%		
3	2.73%	2	11.11%	14	3.89%		
1	0.91%		0.00%	7	1.94%		
	0.00%		0.00%	1	0.28%		
	0.00%		0.00%		0.00%		
1	0.91%		0.00%	4	1.11%		
	0.00%	1	5.56%	1	0.28%		
	0.00%		0.00%		0.00%		
6	5.45%		0.00%	15	4.17%		
1	0.91%		0.00%		0.00%		
1	0.91%		0.00%	1	0.28%		
2	1.82%	1	5.56%	5	1.39%		
2	1.82%	1	5.56%	12	3.33%		
3	2.73%	1	5.56%	15	4.17%		
2	1.82%		0.00%	2	0.56%		
2	1.82%		0.00%	3	0.83%		
5	4.55%		0.00%	10	2.78%		
	0.00%		0.00%		0.00%		
	0.00%		0.00%	3	0.83%		
1	0.91%		0.00%	7	1.94%		
	0.00%		0.00%	1	0.28%		
	0.00%		0.00%	4	1.11%		
3	2.73%		0.00%	6	1.67%		
2	1.82%		0.00%	7	1.94%		
2	1.82%		0.00%	1	0.28%		
3	2.73%	1	5.56%	8	2.22%		
3	2.73%		0.00%	4	1.11%		
2	1.82%		0.00%	6	1.67%		
1	0.91%		0.00%	3	0.83%		
6	5.45%	2	11.11%	16	4.44%		
2	1.82%		0.00%	12	3.33%		
3	2.73%		0.00%	4	1.11%		
3	2.73%	1	5.56%	17	4.72%		
3	2.73%	1	5.56%	16	4.44%		
1	0.91%	1	5.56%	12	3.33%		
	0.00%		0.00%	3	0.83%		
4	3.64%	1	5.56%	8	2.22%		
2	1.82%		0.00%	4	1.11%		
3	2.73%		0.00%	6	1.67%		
2	1.82%		0.00%	7	1.94%		
	0.00%		0.00%		0.00%		
	0.00%		0.00%		0.00%		
110	100.00%	18	100.00%	360	100.00%		

FIG. 30N

Urinary Bladder		Uterus, Nos		Vagina & Labia		Vulva, Nos	
8		8		3		1	
Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type	Number of times biomarker flagged as	% in tumor type
4	6.67%	6	5.41%	1	2.78%	1	7.14%
1	1.67%		0.00%		0.00%		0.00%
	0.00%	1	0.90%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	2.78%		0.00%
	0.00%		0.00%	1	2.78%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
2	3.33%	1	0.90%		0.00%		0.00%
2	3.33%	4	3.60%		0.00%	1	7.14%
	0.00%		0.00%	1	2.78%		0.00%
1	1.67%	4	3.60%	1	2.78%	1	7.14%
2	3.33%	5	4.50%	2	5.56%	1	7.14%
1	1.67%	7	6.31%	1	2.78%	1	7.14%
	0.00%	2	1.80%		0.00%		0.00%
1	1.67%	2	1.80%	1	2.78%		0.00%
1	1.67%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	1.67%	6	5.41%	2	5.56%		0.00%
	0.00%		0.00%		0.00%		0.00%
4	6.67%	6	5.41%	2	5.56%		0.00%
1	1.67%	4	3.60%		0.00%		0.00%
	0.00%		0.00%	1	2.78%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	1	0.90%		0.00%	1	7.14%
	0.00%		0.00%		0.00%		0.00%
3	5.00%	4	3.60%	1	2.78%		0.00%
	0.00%	1	0.90%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
1	1.67%	3	2.70%	1	8.33%	1	7.14%
1	1.67%	4	3.60%	1	2.78%		0.00%
2	3.33%	6	5.41%	2	5.56%	1	7.14%
	0.00%		0.00%		0.00%		0.00%
	0.00%	2	1.80%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%	5	4.50%		0.00%		0.00%
1	1.67%	4	3.60%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%	1	2.78%		0.00%
	0.00%		0.00%	1	2.78%		0.00%
	0.00%		0.00%		0.00%	1	7.14%
	0.00%		0.00%		0.00%		0.00%
4	6.67%	1	0.90%		0.00%		0.00%
	0.00%	1	0.90%		0.00%		0.00%
1	1.67%		0.00%	1	2.78%	1	7.14%
	0.00%	3	2.70%	1	8.56%		0.00%
2	3.33%	1	0.90%	2	8.33%	1	7.14%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%	1	7.14%
6	10.00%	5	4.50%	2	5.56%		0.00%
4	6.67%	8	7.21%	1	2.78%	1	7.14%
2	3.33%	4	3.60%	1	2.78%	1	7.14%
	0.00%		0.00%	1	2.78%		0.00%
5	8.33%	5	4.50%	1	2.78%		0.00%
1	1.67%		0.00%	1	2.78%		0.00%
1	1.67%	4	3.60%		0.00%		0.00%
1	1.67%	1	0.90%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
	0.00%		0.00%		0.00%		0.00%
60	100.00%	111	100.00%	36	100.00%	14	100.00%

FIG. 30O

(blank)				
Number of times biomarker flagged as	% in tumor type	Grand Total	% in tumor type	Gene
4	4.82%	379	4.18%	ADA
	0.00%	65	0.72%	AR
	0.00%	102	1.13%	ASNS
	0.00%	1	0.01%	ASNS
	0.00%	76	0.84%	BRCA1
1	1.20%	120	1.32%	BRCA2
	0.00%	4	0.04%	CDK2
	0.00%	15	0.16%	CDKN2
	0.00%	211	2.33%	CES2
2	2.41%	182	2.01%	DCK
	0.00%	59	0.64%	DHFR
3	3.61%	151	1.67%	DNMT1
3	3.61%	267	2.95%	DNMT3A
2	2.41%	339	3.74%	DNMT3B
	0.00%	126	1.39%	EGFR
1	1.20%	37	0.41%	EPHA2
	0.00%	66	0.73%	ERBB2
	0.00%	1	0.01%	ERCC1
2	2.41%	87	0.96%	ESR1
1	1.20%	100	1.10%	FLT1
5	6.02%	368	4.04%	GART
	0.00%	1	0.01%	GNRH1
3	3.61%	346	3.82%	HIF1A
	0.00%	111	1.22%	HSP90AA1
1	1.20%	81	0.89%	HSPCA
	0.00%	6	0.07%	IL2RA
	0.00%	39	0.43%	KDR
	0.00%	88	0.97%	KIT
	0.00%	2	0.02%	LCK
4	4.82%	356	4.39%	MGMT
1	1.20%	14	0.15%	MLH1
1	1.20%	49	0.54%	MSH2
3	3.61%	270	3.97%	NFKB1
3	3.61%	321	3.54%	NFKB2
4	4.82%	365	4.96%	NFKBIA
	0.00%	41	0.45%	PDGFC
	0.00%	71	0.78%	PDGFRA
	0.00%	229	2.53%	PDGFRB
	0.00%	22	0.24%	PGR
1	1.20%	31	0.33%	PTEN
	0.00%	100	1.10%	PTGS2
	0.00%	9	0.10%	RARA
	0.00%	61	0.67%	RRM1
2	2.41%	104	1.15%	RRM2
1	1.20%	114	1.26%	RRM2B
1	1.20%	70	0.78%	RXRG
2	2.41%	260	2.87%	SPARC
2	2.41%	136	1.50%	SRC
1	1.20%	162	1.88%	SSTR1
1	1.20%	101	1.11%	SSTR2
3	3.61%	356	4.37%	SSTR3
2	2.41%	167	1.84%	SSTR4
1	1.20%	96	1.06%	SSTR5
4	4.82%	360	4.37%	TOP1
4	4.82%	384	4.24%	TOP2A
4	4.82%	369	4.07%	TOP2B
2	2.41%	86	1.06%	TYMS
1	1.20%	318	3.51%	VDR
1	1.20%	138	1.52%	VEGF
2	2.41%	181	2.00%	VEGFA
1	1.20%	56	0.62%	VHL
	0.00%	78	0.87%	YES1
	0.00%	2	0.02%	ZAP70
83	100.00%	9063	100.00%	Grand Total

FIG. 31

Grand Total	% in tumor type	Gene
9065	100.00%	Grand Total
398	4.39%	MGMT
396	4.37%	SSTR3
396	4.37%	TOP1
395	4.36%	NFKBIA
384	4.24%	TOP2A
379	4.18%	AOA
369	4.07%	TOP2B
365	4.04%	CART
346	3.82%	HIF1A
339	3.74%	DNMT3B
321	3.54%	NFKB2
318	3.51%	VDR
278	3.07%	NFKB1
267	2.95%	DNMT3A
260	2.87%	SPARC
229	2.53%	PDGFRB
213	2.35%	CES2
182	2.01%	LCK
181	2.00%	VEGFA
167	1.84%	SSTR4
159	1.75%	RRM2
152	1.68%	SSTR1
151	1.67%	DNMT1
138	1.52%	YEGF
136	1.50%	SRC
126	1.39%	FGFR
120	1.32%	BRCA2
114	1.26%	RRM2B
111	1.22%	HSP90AA1
102	1.13%	ASNS
101	1.11%	SSTR2
100	1.10%	FLT1
100	1.10%	PTGS2
96	1.06%	SSTR5
96	1.06%	TYMS
68	0.97%	KIT
87	0.96%	ESR1
81	0.89%	HSPCA
79	0.87%	YES1
76	0.84%	BRCA1
71	0.78%	PDGFRA
66	0.73%	ERBB2
65	0.72%	AR
61	0.67%	RRM1
58	0.64%	DHFR
56	0.62%	VHL
49	0.54%	MSH2
41	0.45%	PDGFC
39	0.43%	KDR
37	0.41%	EPHA2
26	0.29%	RXRG
22	0.24%	PGR
21	0.23%	PTEN
16	0.18%	CDW52
14	0.15%	MLH1
9	0.10%	RARA
6	0.07%	ILZRA
4	0.04%	CD52
2	0.02%	LCK
2	0.02%	ZAP70
1	0.01%	ASNS
1	0.01%	ERCC3
1	0.01%	GNRH1

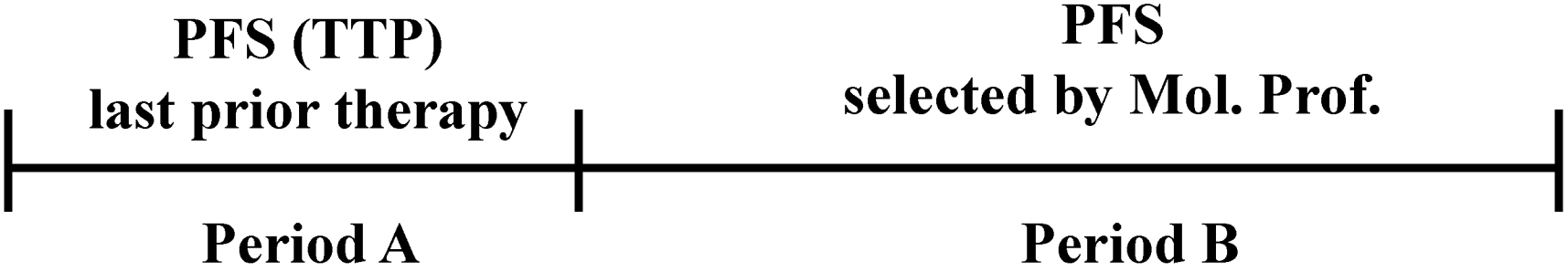

PFS (TTP)
last prior therapy
PFS
selected by Mol. Prof.
Period A
Period B

FIG. 32

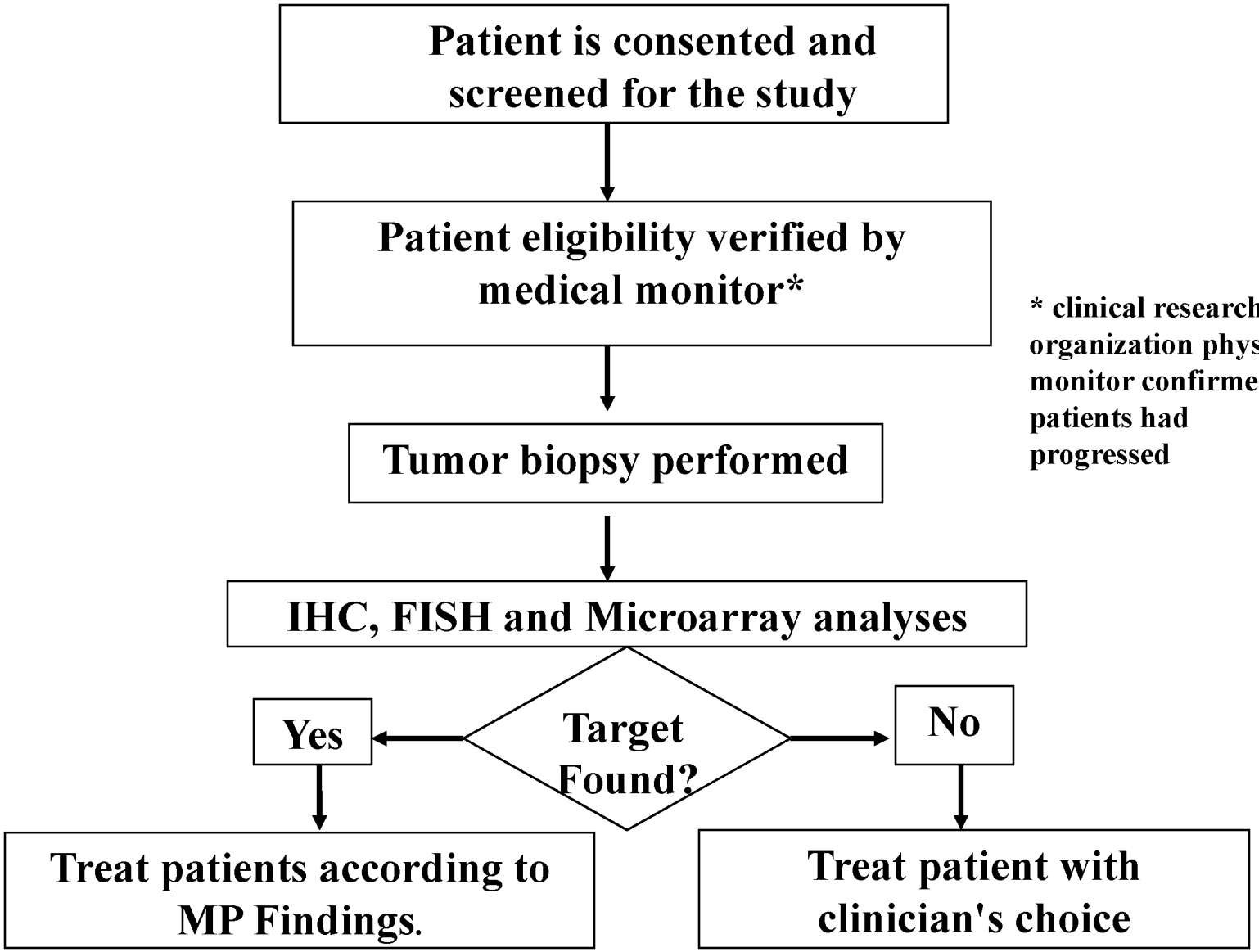
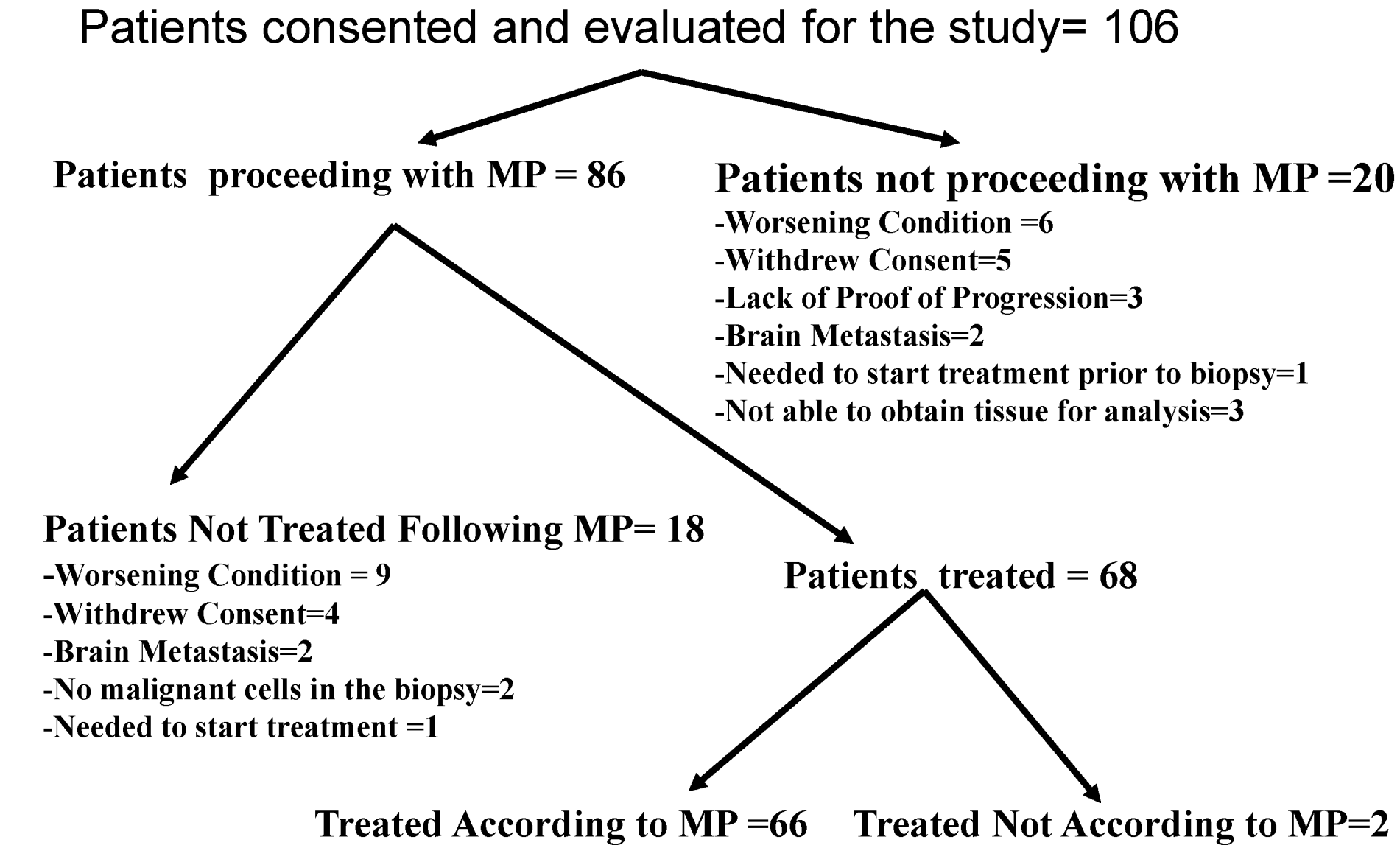

Patient is consented and screened for the study
Patient eligibility verified by medical monitor*
Tumor biopsy performed
IHC, FISH and Microarray analyses
Target Found?
Yes
No
Treat patients according to MP Findings.
Treat patient with clinician's choice
* clinical research organization physician monitor confirmed all patients had progressed

FIG. 33



Note: Median time for MP results available to a clinician = 16 days from biopsy and 8 days from reception of tissue samples for analyses

FIG. 34

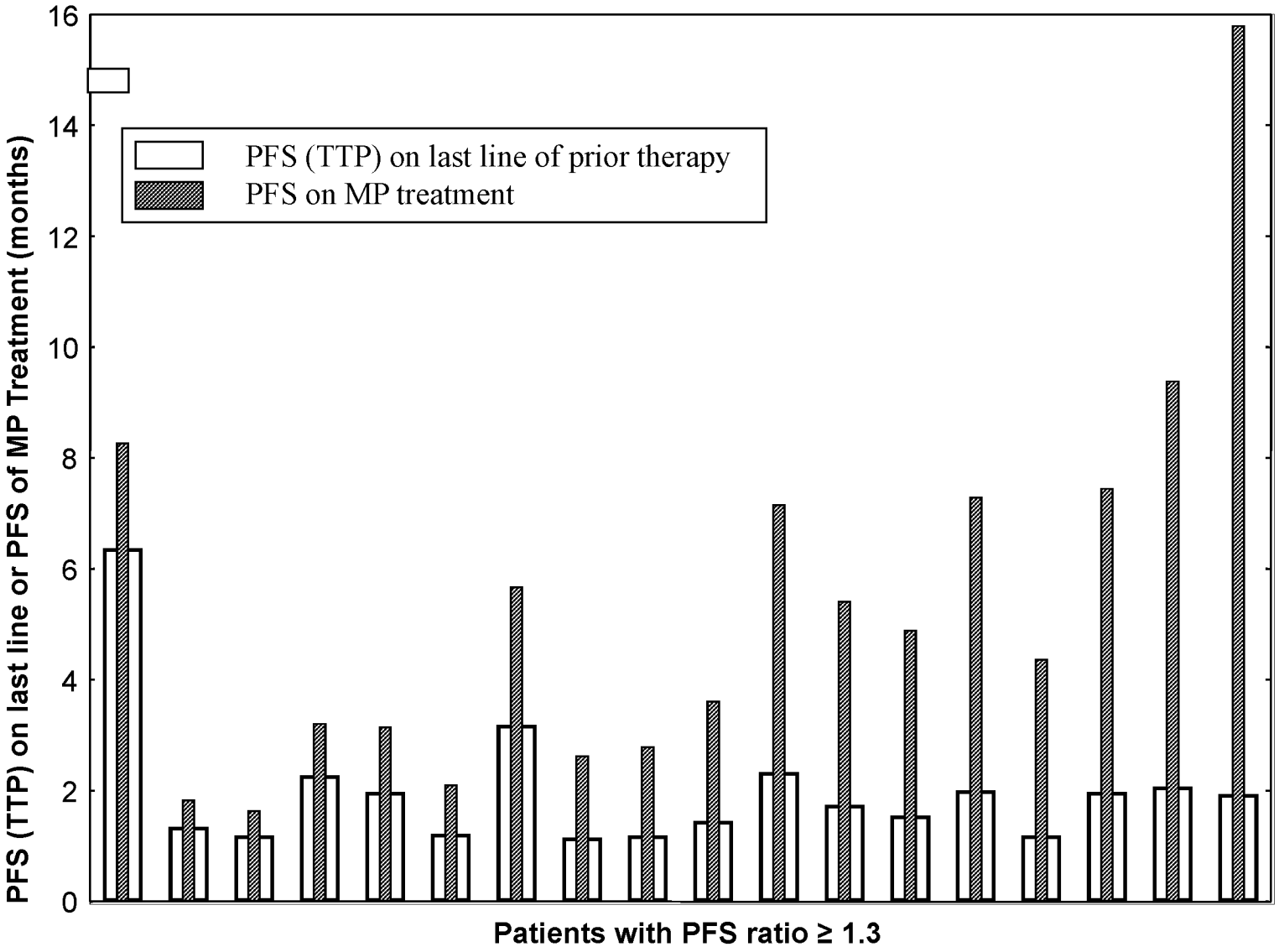

16
14
12
10
8
6
4
2
0
PFS (TTP) on last line or PFS of MP Treatment (months)
PFS (TTP) on last line of prior therapy
PFS on MP treatment
Patients with PFS ratio ≥ 1.3

FIG. 35

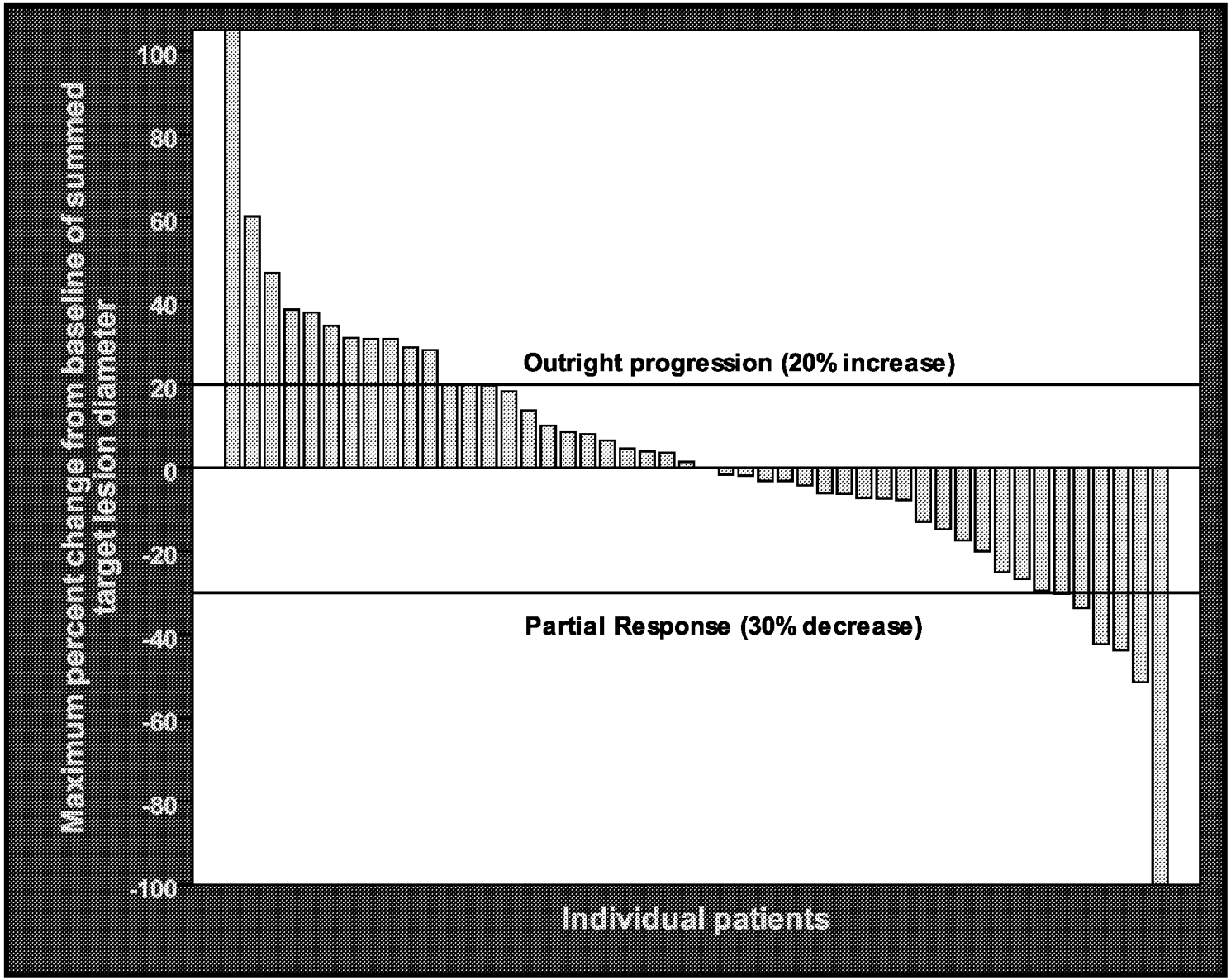

Maximum percent change from baseline of summed target lesion diameter
100
80
60
40
20
0
-20
-40
-60
-80
-100
Outright progression (20% increase)
Partial Response (30% decrease)
Individual patients

FIG. 36

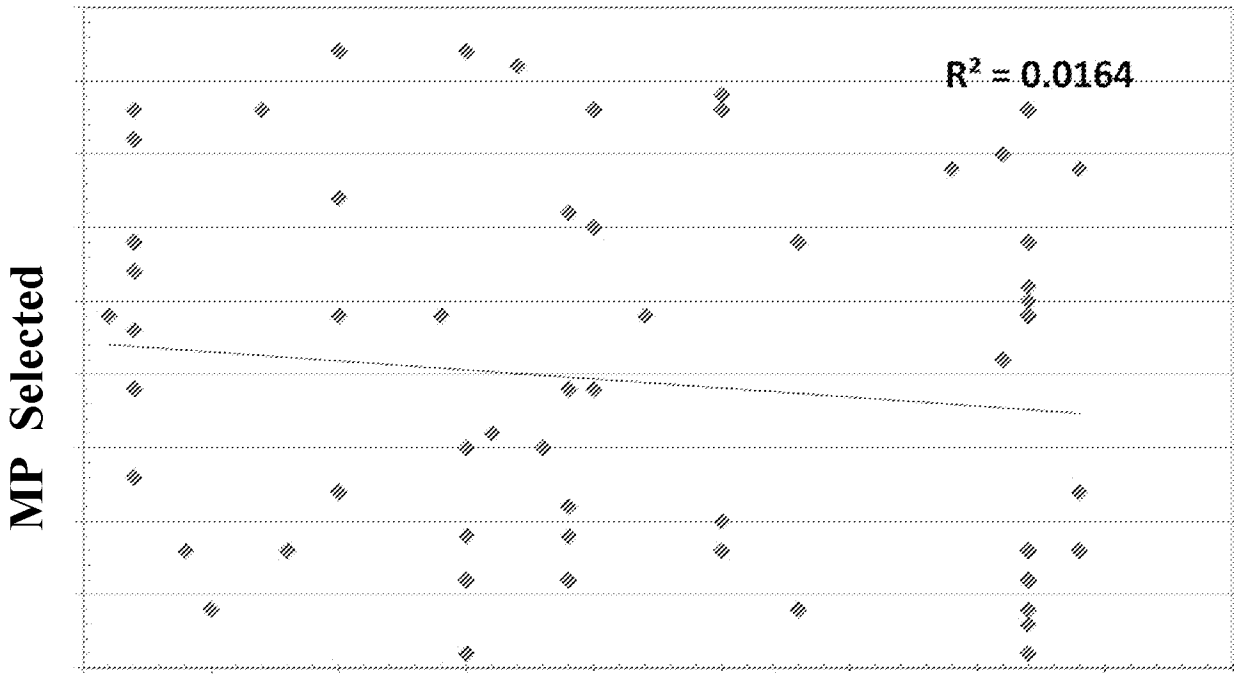


FIG. 37

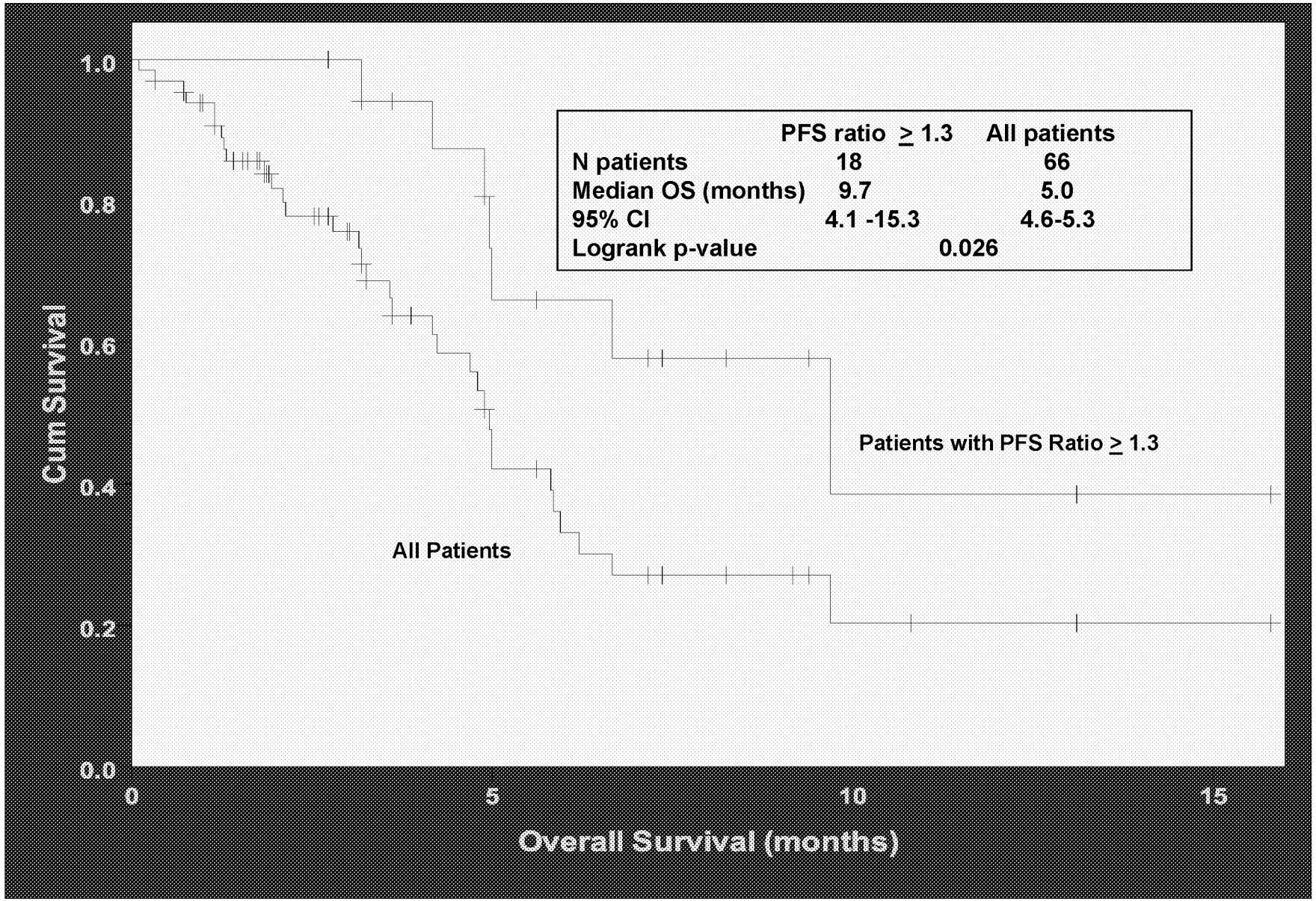

1.0
0.8
0.6
0.4
0.2
0.0
Cum Survival
0
5
10
15
Overall Survival (months)
PFS ratio ≥ 1.3
All patients
N patients
18
66
Median OS (months)
9.7
5.0
95% CI
4.1 -15.3
4.6-5.3
Logrank p-value
0.026
Patients with PFS Ratio ≥ 1.3
All Patients

FIG. 38

Microarray Analysis on Formalin-Fixed Tissue for RNA Expression

Gene	Ratio	Expression	
KIT	0.10	Indeterminate	
TOP2B	0.22	Under Expressed*	
CSFR	0.23	Indeterminate	
MLH1	0.29	Indeterminate	
CD33	0.31	Indeterminate	
SSTR2	0.31	Indeterminate	
AR	0.42	Indeterminate	
ERCC3	0.43	Indeterminate	
PDGFRA	0.44	Under Expressed*	
SPARC	0.45	Under Expressed*	
PGR	0.50	Indeterminate	
RAF1	0.50	Under Expressed*	
GART	0.55	Under Expressed*	
FOLR2	0.57	Under Expressed*	
ADA	0.57	Under Expressed*	
POLA1	0.59	Indeterminate	
ZAP70	0.59	Indeterminate	
ESR1	0.63	Indeterminate	
LCK	0.63	Indeterminate	
TXNRD1	0.64	Indeterminate	
SSTR1	0.65	Indeterminate	
KDR	0.66	Indeterminate	
PDGFC	0.68	No Change	
FYN	0.71	No Change	
DCK	0.71	No Change	
ASNS	0.75	No Change	
BCL2	0.77	Indeterminate	
RRM1	0.79	No Change	
PDGFRB	0.81	No Change	
NFKB1	0.93	No Change	
LYN	0.94	No Change	
DNMT3A	0.94	Indeterminate	
CD52	0.96	Indeterminate	
TOP2A	0.97	Indeterminate	
RXRG	0.97	Indeterminate	
HCK	0.97	No Change	
PTEN	1.01	No Change	
BRCA1	1.01	Indeterminate	
FLT1	1.04	Indeterminate	
DNMT3B	1.05	Indeterminate	
SSTR3	1.06	Indeterminate	
DNMT1	1.11	No Change	
IL2RA	1.12	Indeterminate	
SSTR4	1.13	Indeterminate	
BRCA2	1.16	Indeterminate	
HDAC1	1.17	No Change	
GNRH1	1.18	No Change	
ERCC1	1.19	Indeterminate	
RRM2B	1.19	No Change	
RXRB	1.20	No Change	
MS4A1	1.20	Indeterminate	
ERBB2	1.23	No Change	
TOP1	1.25	Indeterminate	
YES1	1.26	No Change	
DHFR	1.27	No Change	
ABCG2	1.28	No Change	
TNF	1.31	Indeterminate	
NFKB2	1.32	Indeterminate	
CDA	1.33	No Change	
HSP90AA1	1.34	No Change	
RARA	1.42	Indeterminate	
CES2	1.44	No Change	
TYMS	1.50	Indeterminate	
HIF1A	1.64	Over Expressed	✓
SRC	1.64	Indeterminate	
MGMT	1.73	Over Expressed	✓
VDR	1.83	Indeterminate	
GSTP1	1.84	Over Expressed	
EGFR	1.94	Indeterminate	
TK1	1.94	Over Expressed	
BIRC5	2.14	Indeterminate	
MSH2	2.17	Indeterminate	
VEGFA	2.22	Over Expressed	
EPHA2	2.35	Indeterminate	
VHL	2.75	Over Expressed	
SSTR5	3.43	Indeterminate	
ABCC1	3.59	Indeterminate	
ECGF1	4.08	Over Expressed	
RRM2	9.01	Indeterminate	
PTGS2	9.21	Over Expressed	✓

*Degradation of RNA in FFPE samples may lead to a call of under expressed for a particular gene target. However, please note that the RNA extracted from this patient was of acceptable quality for performance of this test.

FIG. 39

TARGET NOW.

CARIS LIFE SCIENCES

PATIENT	PHYSICIAN	SPECIMEN
Case Number: MP-TN00-00000	Test Ordering Physician, MD	**Primary Tumor Site:** Ovary
Patient: Jane Doe	Test Organization	**Specimen Site:** Connective tissue
Date Of Birth: 01/01/1950	1234 Main Street	**Specimen Collected:** 01/16/2000
Sex: Female	Dallas, TX 75133	**Specimen Received:** 1/5/2000
SSN: 123-456-7890	(123)456-7890	**Date Reported:** 1/01/2000

Interpretation: Received one paraffin block labeled "123456-A1" from Test University Medical Center, Greenville, SC, with the corresponding surgical pathology report disclosing:

Mass right back, excision: Metastatic adenocarcinoma, extending to inked resection margins.

Interpretation is done by Dr. Ashfaq and signed out by Dr. Gupta for Dr. Ashfaq.

Clinical History: Per the submitted patient history, the patient is a 50-year-old female with a history of cancer of unknown primary. She underwent a back mass excision in January 2000 showing metastatic adenocarcinoma. No history of prior therapies were provided.

TARGET NOW® SUMMARY - AGENTS ASSOCIATED WITH CLINICAL BENEFIT

The role of Target Now is to identify biomarkers and therapies associated with clinical benefit or lack of clinical benefit for cancer patients. The selection of any, all or none of the matched agents resides with the discretion of the treating physician. **If a patient's tumor has previously progressed on an agent identified as associated with clinical benefit on this report, the patient should not be re-treated with this agent.**

Biomarker	Assay	Results	Agents Associated With CLINICAL BENEFIT
TOPO1	IHC	Significant (+2, 85%)	irinotecan
PDGFR	IHC	Significant (+2, 80%)	imatinib
c - kit	IHC	Significant (+2, 50%)	imatinib
SPARC	IHC	Significant (+2, 50%)	nab-paclitaxel
ER	IHC	Significant (+1, 20%)	tamoxifen, aromatase inhibitors (anastrozole, letrozole)
PTGS2	Microarray	Increased (9.21)	celecoxib
HIF1A	Microarray	Increased (1.64)	sorafenib, sunitinib, bevacizumab
GART	Microarray	Decreased (.55)	pemetrexed

* Caris Dx has defined threshold levels of reactivity for IHC based on published evidence.

FIG. 40A

PATIENT INFORMATION

Patient: Jane Doe **Case Number:** MP-TN00-00000 **Ordering Physician:** Test Ordering Physician, MD

TARGET NOW® SUMMARY

Biomarker	Assay	Results	Agents Associated With LACK OF CLINICAL BENEFIT
MGMT	IHC	Significant (+3, 50%)	temozolomide
MGMT	Microarray	Increased (1.73)	temozolomide
ERCC1	IHC	Significant (+2, 80%)	cisplatin; carboplatin
BCRP	IHC	Significant (+2, 60%)	cisplatin; carboplatin
RRM1	IHC	Significant (+2, 80%)	gemcitabine
MRP1	IHC	Significant (+2, 40%)	etoposide, vincristine
PGP	IHC	Significant (+1, 10%)	etoposide, vincristine
TS	IHC	Significant (+2, 35%)	fluoropyrimidines

FIG. 40B

PATIENT INFORMATION

Patient: Jane Doe **Case Number:** MP-TN00-00000 **Ordering Physician:** Test Ordering Physician, MD

Biomarker	Information on Therapeutic Impact from Literature	Literature Level of Evidence
SPARC	High SPARC protein was associated with response to nab-paclitaxel-based combination therapy	III / Good
TOPO1	High expression of TOPO1 has been associated with a higher response rate when treated with irinotecan	II-3 / Fair
PGP	High expression of P-glycoprotein has been associated with lack of response to Etoposide and Vincristine.	II-3 / Fair
BCRP	High expression of BCRP has been associated with shorter progression-free (PFS) and overall survival (OS), when treated with platinum-based combination chemotherapy.	II-3 / Good
MRP1	High expression of MRP1 has been associated with lack of response to Etoposide and Vincristine.	II-3 / Fair
TS	High TS expression levels are associated with poor response to fluoropyrimidines and shorter OS and DFS.	II-3 / Good
ERCC1	High expression of ERCC1 has been associated with lower response rates and a significantly shorter median progression-free and overall survival when treated with platinum-based chemotherapy.	II-3 / Good
RRM1	High RRM1 expression was associated with lack of response to gemcitabine treatment and poor outcome	II-3 / Good
MGMT	High expression of MGMT has been associated with resistance to temozolomide-based therapy	II-3 / Good
c - kit	High expression of c-Kit has been associated with significantly better survival, when treated with imatinib	II-2 / Fair
PDGFR	High expression of PDGFR a has been associated with response to imatinib treatment	III / Fair
ER	High expression of ER has been associated with response to endocrine therapy.	II-3 / Good
GART	Biomarker associations with drugs based on microarray results have been identified by mechanistic association.	
HIF1A		
MGMT		
PTGS2		

FIG. 40C

PATIENT INFORMATION

Patient: Jane Doe **Case Number:** MP-TN00-00000 **Ordering Physician:** Test Ordering Physician, MD

IHC Biomarker Detail

Biomarker	Significant Result**	Patient Tumor		Threshold* Biomarker Intensity/Percentage
		Staining Intensity	Percent Staining	
MGMT	✓	3	50	≥1+ and ≥50% or <1+ and <10%
TOPO1	✓	2	85	≥10% or < 10%
ERCC1	✓	2	80	≥2+ and ≥50% or ≤1+ and ≤25%
RRM1	✓	2	80	≥2+ and ≥50% or =0+ and =100%
PDGFR	✓	2	80	≥2+ and ≥30%
BCRP	✓	2	60	≥1+ and ≥10% or <1+ and <10%
SPARC ***	✓	2	50	≥2+ and ≥30%
c - kit	✓	2	50	≥2+ and ≥30%
MRP1	✓	2	40	≥1+ and ≥10% or <1+ and <10%
TS	✓	2	35	≥2+ and ≥30% or ≤1+ and ≤25%
TOP2A		2	10	≥2+ and ≥30% or =0+ and =100%
PTEN		1	70	≥2+ and ≥10% or <1+ and ≤10%
ER	✓	1	20	≥2+ and ≥75%
Her2/Neu		1	10	≥3+ and ≥30% or ≤2+ and <10%
PGP	✓	1	10	≥1+ and ≥10% or <1+ and <10%
PR		1	5	≥1+ and ≥10% or =0%
Androgen Receptor		0	100	≥1+ and ≥10% or =0+ and =100%

*Caris Dx has defined threshold levels of reactivity for IHC to establish cutoff points based on published evidence.
** All significant results are reflected in the Target Now Summary.
*** SPARC results reflect analyses performed with both monoclonal and polyclonal antibodies.

FIG. 40D

PATIENT INFORMATION

Patient: Jane Doe **Case Number:** MP-TN00-00000 **Ordering Physician:** Test Ordering Physician, MD

Microarray Analysis of RNA Expression on Formalin-Fixed Tissue

Gene	Ratio	Expression	Significant Result
KIT	NI	Not Informative	
TOP2B	0.22	Under Expressed	
OGFR	NI	Not Informative	
MLH1	NI	Not Informative	
CD33	NI	Not Informative	
SSTR2	NI	Not Informative	
AR	NI	Not Informative	
ERCC3	NI	Not Informative	
PDGFRA	0.44	Under Expressed	
SPARC	0.45	Under Expressed	
PGR	NI	Not Informative	
RAF1	0.50	Under Expressed	
GART	0.55	Under Expressed	✓
FOLR2	0.57	Under Expressed	
ADA	0.57	Under Expressed	
POLA1	NI	Not Informative	
ZAP70	NI	Not Informative	
ESR1	NI	Not Informative	
LCK	NI	Not Informative	
TXNRD1	NI	Not Informative	
SSTR1	NI	Not Informative	
KDR	NI	Not Informative	
PDGFC	0.68	No Change	
FYN	0.71	No Change	
DCK	0.71	No Change	
ASNS	0.75	No Change	
BCL2	NI	Not Informative	
RRM1	0.79	No Change	
PDGFRB	0.81	No Change	
NFKB1	0.93	No Change	
LYN	0.94	No Change	
DNMT3A	NI	Not Informative	
CD52	NI	Not Informative	
TOP2A	NI	Not Informative	
RXRG	NI	Not Informative	
HCK	0.97	No Change	
PTEN	1.01	No Change	
BRCA1	NI	Not Informative	
FLT1	NI	Not Informative	
DNMT3B	NI	Not Informative	
SSTR3	NI	Not Informative	
DNMT1	1.11	No Change	
IL2RA	NI	Not Informative	
SSTR4	NI	Not Informative	
BRCA2	NI	Not Informative	
HDAC1	1.17	No Change	
GNRH1	1.18	No Change	
ERCC1	NI	Not Informative	
RRM2B	1.19	No Change	
RXRB	1.20	No Change	
MS4A1	NI	Not Informative	
ERBB2	1.23	No Change	
TOP1	NI	Not Informative	
YES1	1.25	No Change	
DHFR	1.27	No Change	
ABCG2	1.28	No Change	
TNF	NI	Not Informative	
NFKB2	NI	Not Informative	
CDA	1.33	No Change	
HSP90AA1	1.34	No Change	
RARA	NI	Not Informative	
CES2	1.44	No Change	
TYMS	NI	Not Informative	
HIF1A	1.64	Over Expressed	✓
SRC	NI	Not Informative	
MGMT	1.73	Over Expressed	✓
VDR	NI	Not Informative	
GSTP1	1.84	Over Expressed	
EGFR	NI	Not Informative	
TK1	1.94	Over Expressed	
BIRC5	NI	Not Informative	
MSH2	NI	Not Informative	
VEGFA	2.22	Over Expressed	
EPHA2	NI	Not Informative	
VHL	2.75	Over Expressed	
SSTR5	NI	Not Informative	
ABCC1	NI	Not Informative	
ECGF1	4.08	Over Expressed	
RRM2	NI	Not Informative	
PTGS2	9.21	Over Expressed	✓

"No Change" indicates that there is no difference in expression for this gene between the tumor and control tissues at a significance level of p<=0.001. A significance level of p<=0.001 has been chosen since genes passing this threshold can be validated as differentially expressed by alternative methods approximately 95% of the time.

"Not Informative" indicates that the data obtained for either the patient sample or the control sample were not of high enough quality to confidently make a call on the expression level of that particular RNA transcript. Therefore, the expression ratios were not informative (NI).

Microarray Comment

RNA extracted from this patient was of acceptable quality for performance of this test.

The expression profiles obtained with FFPE samples show more variability and may differ from expression profiles obtained with fresh frozen samples.

Methodology

Total RNA is extracted from tumor tissue and is converted to cDNA. This cDNA sample is then subjected to a whole genome (24K) microarray analysis using Illumina cDNA-mediated annealing, selection, extension and ligation (DASL) process. The expression of a subset of 80 genes are then compared to a tissue specific normal control and the relative expression ratios of these 80 target genes is determined as well as the statistical significance of the differential expression.

FIG. 40E

PATIENT INFORMATION

Patient: Jane Doe **Case Number:** MP-TN00-00000 **Ordering Physician:** Test Ordering Physician, MD

Appendix

BIOMARKER DESCRIPTION

Target	Biomarker Description
BCRP	Breast cancer resistance protein (BCRP), is a member of the superfamily of ABC transporter proteins, also known as mitoxantrone resistance protein, ABCP, and ABCG2, was identified in a cancer cell line selected for resistance to daunorubicin. Elevated expression of BCRP in vitro causes resistance to anticancer drugs, including topotecan, irinotecan, mitoxantrone, and doxorubicin.
c - kit	c-Kit is a cytokine receptor expressed on the surface of hematopoietic stem cells as well as other cell types. This receptor binds to stem cell factor (SCF, a cell growth factor). As c-Kit is a receptor tyrosine kinase, ligand binding causes receptor dimerizes and initiates a phosphorylation cascade resulting in changes in gene expression. These changes affect proliferation, apoptosis, chemotaxis and adhesion. c-Kit is inhibited by the drugs imatinib, sunitinib and sorafenib.
ER	The estrogen receptor (ER) is a member of the nuclear hormone family of intracellular receptors which is activated by the hormone estrogen. Its main function is as a DNA binding transcription factor to regulate estrogen mediated gene expression. ER is expressed in breast, ovarian and endometrial tissue. Estrogen and its receptors are essential for sexual development and reproductive function, but also play a role in other tissues such as bone. Estrogen receptors are over-expressed in many breast cancer cases, referred to as "ER positive." Estrogen binding to ER on cancer cells leads to cancer cell proliferation. Breast tumors marked by ER positivity currently form the basis of selecting patients who will receive and benefit from hormone based therapy.
ERCC1	Nucleotide excision repair (NER) is a DNA repair mechanism necessary for the repair of DNA damage from a vast variety of sources including chemicals and ultraviolet (UV) light from the sun. NER is a particularly important mechanism by which cells prevent unwanted and potentially cancer-causing mutations. ERCC1 (excision repair cross-complementation group 1) is an important enzyme in the NER pathway. Some anticancer drugs kill cancer cells by causing DNA damage and hence need to overcome the effects of the DNA repair pathways to be effective. For example, platinum based drugs induce DNA cross-links that interfere with DNA replication and transcription. Tumors with low ERCC1 expression are more likely to benefit from platinum based DNA damaging agents while tumors that overexpress ERCC1 are more likely to be resistant to such drugs
MGMT	O-6-methylguanine-DNA methyltransferase (MGMT) encodes a DNA repair enzyme. Loss of MGMT expression leads to compromised DNA repair in cells and may play a significant role in cancer formation. Low MGMT expression has been correlated with response to temozolomide.
MRP1	MRP1 (multidrug resistance–associated protein 1) is one of several drug resistance proteins identified to date and is an important mediator of the Multi Drug Resistance (MDR) phenotype in cancer cells. MRP1 is found to confer a lack of response to anthracyclines (eg daunorubicin, doxorubicin), vinca alkaloids (vincristine, vinblastine), epipodophyletoxins (etoposide and teniposide), and mitoxantrone, but probably not taxanes (Paclitaxel, Docetaxel), by causing the efflux of glutathione-conjugated natural product agents (glutathione is a peptide composed of 3 amino-acids). Elevated levels of MRP1 have been observed in relapsed acute myelogenous leukemia, chronic lymphatic leukemia, small-cell and non--small-cell lung cancer, and neuroblastoma among other malignancies.
PDGFR	Platelet-derived growth factors (PDGFs) are important factors regulating many important cellular functions related to cancer development. These growth factors bind to protein tyrosine kinase receptors including PDGFR-α to transmit extracellular signals. Ligand bound receptors form dimers and transphosphorylate tyrosine residues on the receptor leading to activation and changes in gene expression. Imatinib is a drug that targets the tyrosine kinase domain of several tyrosine kinase receptors, including PDGFRs. Imatinib competitively inhibits PDGFR-α activation. Sorafenib and Sunitinib are two additional tyrosine kinase inhibitors which can also block PDGFR-α.
PGP	P-glycoprotein (MDR1, ABCB1) is an ATP-dependent, transmembrane drug efflux pump with broad substrate specificity, which pumps antitumor drugs out of cells. Its expression is often induced by chemotherapy drugs and is thought to be a major mechanism of chemotherapy resistance. Overexpression of p-gp can be a negative predictive factor for various drugs such as anthracylines (doxorubicin, epirubicin), paclitaxel, vinblastine etc. P-gp remains the most important and dominant representative of Multi Drug Resistance phenotype and is correlated with disease state and resistant phenotype.
RRM1	Ribonucleotide reductase subunit M1 (RRM1) is a component of the ribonucleotide reductase holoenzyme consisting of M1 and M2 subunits. The ribonucleotide reductase is a rate-limiting enzyme involved in the production of nucleotides required for DNA synthesis. Gemcitabine is a deoxycitidine analogue which inhibits ribonucleotide reductase activity. Based on the literature, RRM1 levels are a predictor of patient response when treated with gemcitabine.
SPARC	SPARC (secreted protein acidic and rich in cysteine) is a calcium-binding matricellular glycoprotein secreted by many types of cells. It has a normal role in wound repair, cell migration, and cell-matrix interactions. Its over-expression is thought to have a role in tumor invasion and angiogenesis. A few studies indicate that SPARC over-expression improves the response to the anti cancer drug, nab-paclitaxel. The improved response is thought to be related to SPARC's role in accumulating albumin and albumin targeted agents within tumor tissue.

FIG. 40F

PATIENT INFORMATION

Patient: Jane Doe **Case Number:** MP-TN00-00000 **Ordering Physician:** Test Ordering Physician, MD

Appendix

BIOMARKER DESCRIPTION

Target	Biomarker Description
TOPO1	Topoisomerase I is an enzyme that alters the supercoiling of double-stranded DNA. Topo1 acts by transiently cutting one strand of the DNA to relax the coil and extend the DNA molecule. The regulation of DNA supercoiling is essential to DNA transcription and replication, when the DNA helix must unwind to permit the proper function of the enzymatic machinery involved in these processes. Higher expression of Topo1 has been associated with response to first line chemotherapy containing Irinotecan, a Topo1 inhibitor.
TS	Thymidylate synthetase (TS) is an enzyme that generates thymidine monophosphate (dTMP), which get phosphorylated to thymidine triphosphate (dTTP) for use in DNA synthesis and repair. The reactions catalyzed by TS also yield dihydrofolate as a secondary product. As an anti-cancer chemotherapy target, thymidylate synthetase can be inhibited by fluoropyrimidine or certain folate analogues. High TS has been associated with lack of response to fluoropyrimidine whereas low or no TS expression has been associated with improved clinical response to fluoropyrimidine.

FIG. 40G

PATIENT INFORMATION

Patient: Jane Doe **Case Number:** MP-TN00-00000 **Ordering Physician:** Test Ordering Physician, MD

LITERATURE LEVEL of EVIDENCE

Target	Reference	Level of Evidence
BCRP	Yoh, K., G. Ishii, et al. (2004). "Breast cancer resistance protein impacts clinical outcome in platinum-based chemotherapy for advanced non-small cell lung cancer." Clin Cancer Res 10(5): 1691-7.	II-3 / Fair
BCRP	Hu, Y., D. M. Lin, et al. (2006). "[Influences of PC cell-derived growth factor and breast cancer resistance protein on the curative effects of platinum-based chemotherapeutic regimens for advanced non-small cell lung cancer]." Zhonghua Yi Xue Za Zhi 86(37): 2611-4.	II-3 / Fair
c - kit	Hong, S. M., I. Hwang, et al. (2007). "Clinical and prognostic significances of nuclear and cytoplasmic KIT expressions in extrahepatic bile duct carcinomas." Mod Pathol 20(5): 562-9.	II-3 / Good
c - kit	Kindler, T., F. Breitenbuecher, et al. (2004). "Efficacy and safety of imatinib in adult patients with c-kit-positive acute myeloid leukemia." Blood 103(10): 3644-54.	II-3 / Good
ER	Yamashita, H., Y. Yando, et al. (2006). "Immunohistochemical evaluation of hormone receptor status for predicting response to endocrine therapy in metastatic breast cancer." Breast Cancer 13(1): 74-83.	II-3 / Good
ER	Viale, G., M. M. Regan, et al. (2008). "Chemoendocrine compared with endocrine adjuvant therapies for node-negative breast cancer: predictive value of centrally reviewed expression of estrogen and progesterone receptors--International Breast Cancer Study Group." J Clin Oncol 26(9): 1404-10.	II-2 / Good
ER	Baselga, J., et al., Phase II genomics study of ixabepilone as neoadjuvant treatment for breast cancer. J Clin Oncol, 2009. 27 (4): p. 526-34.	II-2 / Good
ERCC1	Kwon, H.C., et al., Prognostic value of expression of ERCC1, thymidylate synthase, and glutathione S-transferase P1 for 5-fluorouracil/oxaliplatin chemotherapy in advanced gastric cancer. Ann Oncol, 2007. 18(3): p. 504-9.	II-3 / Good
ERCC1	Lee, H.W., et al., Expression of excision repair cross-complementation group 1 protein predicts poor outcome in patients with small cell lung cancer. Lung Cancer, 2008. 59(1): p. 95-104.	II-3 / Good
ERCC1	Lord, R.V., et al., "Low ERCC1 expression correlates with prolonged survival after cisplatin plus gemcitabine chemotherapy in non-small cell lung cancer." Clin Cancer Res, 2002. 8(7): p. 2286-94.	II-2 / Good
MGMT	Kovacs, K., B. W. Scheithauer, et al. (2008). "MGMT immunoexpression predicts responsiveness of pituitary tumors to temozolomide therapy." Acta Neuropathol 115(2): 261-2.	III / Fair
MGMT	Levin, N., I. Lavon, et al. (2006). "Progressive low-grade oligodendrogliomas: response to temozolomide and correlation between genetic profile and O6-methylguanine DNA methyltransferase protein expression." Cancer 106(8): 1759-65.	II-3 / Good
MGMT	Chinot, O. L., M. Barrie, et al. (2007). "Correlation between O6-methylguanine-DNA methyltransferase and survival in inoperable newly diagnosed glioblastoma patients treated with neoadjuvant temozolomide." J Clin Oncol 25(12): 1470-5.	II-3 / Good
MRP1	Ohsawa, M., Y. Ikura, et al. (2005). "Immunohistochemical expression of multidrug resistance proteins as a predictor of poor response to chemotherapy and prognosis in patients with nodal diffuse large B-cell lymphoma." Oncology 68(4-6): 422-31.	II-3 / Good
MRP1	Oshika Y., Y. Ueyama. "Multidrug resistance associated protein and mutant p53 protein expression in non small cell lung cancer." Mod Pathol 1998 11(11):1059-1063.	II-3 / Good
MRP1	Diestra, J.E., M.A. Izquierdo, et al. (2003). "Expression of multidrug resistance proteins P-glycoprotein, multidrug resistance protein 1, breast cancer resistance protein andlung resistance related protein inlocally advanced bladder cancer treated with neoadjuvant chemotherapy: biological and clinical implications". The J of Urol 170: 1383-87.	II-3 / Good
PDGFRa	Viola FS, K.A., Arantes A, Gaiger A, Vasconcellos C, Passos V, Barrios CH, Phase II trial of high dose imatinib in recurrent glioblastoma multiforme (GBM) with platelet derived growth factor receptor (PDGFR) expression. Journal of Clinical Oncology, 2007 ASCO Annual Meeting Proceedings Part I., 2007. 25(18S (June 20 Supplement)): p. 2056.	III / Good
PDGFRA	Sevinc, A., C. Camci, et al. (2007). "The diagnosis of C-kit negative GIST by PDGFRA staining: clinical, pathological, and nuclear medicine perspective." Onkologie 30(12): 645-8.	III / Fair
PDGFRA	De Pas, T., F. Toffalorio, et al. (2008). "Brief report: activity of imatinib in a patient with platelet-derived-growth-factor receptor positive malignant solitary fibrous tumor of the pleura." J Thorac Oncol 3(8): 938-41.	III / Good
PGP	Yeh, J. J., N. Y. Hsu, et al. (2005). "Comparison of chemotherapy response with P-glycoprotein, multidrug resistance-related protein-1, and lung resistance-related protein expression in untreated small cell lung cancer." Lung 183(3): 177-83.	II-3 / Good
PGP	Michieli M., M. Baccarani et al. "P-glycoprotein, lung resistance related protein and multidrug resistance associated protein in de novo acute non lymphocytic leukaemias: biological and clinical implications." Br J Haematol 1999 104(2):328-35.	II-3 / Fair
RRM1	Bepler, G., I. Kusmartseva, et al. (2006). "RRM1 modulated in vitro and in vivo efficacy of gemcitabine and platinum in non-small-cell lung cancer." J Clin Oncol 24(29): 4731-7.	II-3 / Good
RRM1	Rosell, R., E. Felip, et al. (2004). "Gene expression as a predictive marker of outcome in stage IIB-IIIA-IIIB non-small cell lung cancer after induction gemcitabine-based chemotherapy followed by resectional surgery." Clin Cancer Res 10(12 Pt 2): 4215s -4219s.	II-3 / Good
RRM1	Nakahira, S., S. Nakamori, et al. (2007). "Involvement of ribonucleotide reductase M1 subunit overexpression in gemcitabine resistance of human pancreatic cancer." Int J Cancer 120(6): 1355-63.	II-3 / Good
SPARC	Raefsky, E., et al. Phase II study of neoadjuvant bevacizumab and trastuzumab administered with albumin-bound paclitaxel (nab paclitaxel) and carboplatin in HER2+ locally advanced breast cancer. J Clin Oncol (May 20 suppl; abstr 627), 2008.	III / Good

FIG. 40H

PATIENT INFORMATION

Patient: Jane Doe **Case Number:** MP-TN00-00000 **Ordering Physician:** Test Ordering Physician, MD

LITERATURE LEVEL of EVIDENCE

Target	Reference	Level of Evidence
SPARC	Yardley, D.A., et al. Phase II study of neoadjuvant gemcitabine, epirubicin, and albumin-bound nab paclitaxel (GEA) in locally advanced breast cancer with SPARC tumor assessments. J Clin Oncol (May 20 suppl; abstr 603), 2008. 26.	III / Good
TOPO1	Braun, M.S., et al., Predictive biomarkers of chemotherapy efficacy in colorectal cancer: results from the UK MRC FOCUS trial. J Clin Oncol, 2008. 26(16): p. 2690-8.	II-1 / Good
TOPO1	Naniwa, J., et al., Genetic diagnosis for chemosensitivity with drug-resistance genes in epithelial ovarian cancer. Int J Gynecol Cancer, 2007. 17(1): p. 76-82.	II-3 / Good
TS	Paradiso, A., G. Simone, et al. (2000). "Thymidylate synthase and p53 primary tumour expression as predictive factors for advanced colorectal cancer patients." Br J Cancer 82(3): 560-7.	II-3 / Good
TS	Hu, Y. C., R. A. Komorowski, et al. (2003). "Thymidylate synthase expression predicts the response to 5-fluorouracil-based adjuvant therapy in pancreatic cancer." Clin Cancer Res 9(11): 4165-71.	II-3 / Good
TS	Johnston, P. G., R. Mick, et al. (1997). "Thymidylate synthase expression and response to neoadjuvant chemotherapy in patients with advanced head and neck cancer." J Natl Cancer Inst 89(4): 308-13	II-3 / Good

FIG. 40I

PATIENT INFORMATION

Patient: Jane Doe **Case Number:** MP-TN00-00000 **Ordering Physician:** Test Ordering Physician, MD

LITERATURE LEVEL OF EVIDENCE ASSESSMENT FRAMEWORK

Study Design	
Hierarchy of Design	**Criteria**
I	Evidence obtained from at least one properly designed **randomized controlled trial**.
II-1	Evidence obtained from well-designed controlled trials **without randomization**.
II-2	Evidence obtained from well-designed **cohort** or **case-control** analytic studies, preferably from more than one center or research group.
II-3	Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled trials might also be regarded as this type of evidence.
III	Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Study Validity	
Grade	**Criteria**
Good	The study is judged to be valid and relevant as regards results, statistical analysis, and conclusions and shows no significant flaws.
Fair	The study is judged to be valid and relevant as regards results, statistical analysis, and conclusions, but contains at least one significant but not fatal flaw.
Poor	The study is judged to have a fatal flaw such that the conclusions are not valid for the purposes of this test.

*Adapted from Harris, T., D. Atkins, et al. (2001). "Current Methods of the U.S. Preventive Services Task Force." Am J Prev Med 20(3S) [8]

Disclaimer

This test was developed by Caris MPI and their performance characteristic was determined by Caris MPI. It has not been cleared or approved by the U.S. Food and Drug Administration (FDA). These tests are permitted for clinical purposes and should not be regarded as purely investigational or for research only. Caris MPI is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) as qualified to perform high-complexity clinical testing.

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Decisions on care and treatment should be based on the independent medical judgment of the treating physician taking into consideration all available information concerning the patient's condition, including other laboratory tests, in accordance with the standard of care in a given community. Decisions regarding care and treatment should not be based on a single test such as this test. The finding of a biomarker expression does not necessarily indicate pharmacologic effectiveness or lack thereof. If a patient's tumor has previously progressed on an agent identified as associated with clinical benefit on this report, the patient should not be re-treated with this agent.

Pushpa Gupta, MD, Pathologist

1/01/2000
date

FIG. 40J