



SEQUENCES OF PROTEINS OF IMMUNOLOGICAL INTEREST

Elvin A. Kabat, Tai Te Wu, Howard Bilofsky, Margaret Reid-Miller, and Harold Perry

(1983)

Errata

		rata				
#						
20 Position -1	of 145 CL (precu	rsor hears	-h-11 .			
31 Pau and Paul		rsor neavy	chains) sho	uld be Phe.		
35	are the same pr	otein.				
4 The antibody	Specificities e	on 1071/1 m				
)5 light chains)	should by anti-	or (UK44-7A) -P-azobenzen	and 10K; e arsonate	26-12A1 (mouse	kappa	
3 SAPC178 and S	APC176 (mouse 1s	ambda liete	-1-1-1	•		
b and S176.		AMOUNT TIRE	chains) sho	ould be named as	S178	
4 References for	r HOPC1, J698, E	£2061. S176	and Bacac			,
o chains) shou] 6 (1970) Nature.	ld be Weigert, M	i., Cesari,	I.M., Yonko	(mouse lambda Vich. S.J. & Co)	light	
•	, 220, 1045-1047	•			,	
References for Cesari, I.M.	W3159 and MOPC!	511 (mouse]	lambda ligh	t chains) shoul	d ha	
2112-2116.	" HOTEST. C. M"	(1973) Pro	oc. Natl. A	sad. Sci. U.S.A.	, 70,	
J558, XS104,	and S178 (mous	Se lambde	14.14			
completely, w. (mouse lambda	hile HOPC1, Jo	598, H2061,	11ght chaj 5176, H2020	ins) were sequ	enced	
compositions.	right chains)	were anal	yzed by a	mino acid seq	lence	
There is an ad-	44+4					
light chains)	i.e., Elliott	, B.W., Jr	oz and MA ., Steiner.	8-13 (mouse 1:	imbda u w	
the genes has	n the notes of p	mouse lambda	light cha	ins, "The order	of	
be replaced b	y "There are	two linkag	3-J1-C1-V2-, se groups:	12-C2-J4-C4," sh	ould	
Positions 13 and	d 14 of CAM (hum	man heavy ch	ain subgrou	up III) should	ho	
					00	
rosition 171 of	S43 CL (light c	onstant char	in) should	be Asn.		
and Gly post-	nd 143 of MOPC31	5 (light con	nstant chai	n) should to	Son.	
(Bothwell, A.L.)	., Paskind, M.,	Roth. M	tion from n	ucleotide sequer	ices	
w. a ballimore.	D. (1982) Nat	ure, 298, 38	30-382; Wu,	G.E., Govindi	ky,	1000
Hozumi, N. & Mur	ialdo, H. (108				N	
Positions 258 an	d 262 - d		, ,			
Positions 258 an revised by the a	d 263 of MOPC uthors to Pro ar	173 (heavy nd Val respe	constant	chain) have b	een	
Positions 258 an revised by the a	d 263 of MOPC uthors to Pro ar	173 (heavy nd Val respe	constant	chain) have b	een	
Positions 258 an revised by the a The position num should read as 99	d 263 of MOPC uthors to Pro an bering for the c5. 95A, 95B, 95C	173 (heavy nd Val respe codons of 1 7, 95D, 95E,	constant ctively. ight chair 95F, 96, a	chain) have b variable reg	een	
Positions 258 an revised by the a The position num should read as go	d 263 of MOPC uthors to Pro ar bering for the c5. 95A, 95B, 95C	173 (heavy nd Val respe codons of 1 2, 95D, 95E,	constant ctively. ight chair 95F, 96, a	chain) have b variable reg	een	
Positions 258 an revised by the a The position num should read as 99 The human kappa ((1982) J. Biol. (d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516	173 (heavy nd Val respe codons of 1 2, 95D, 95E,	constant ctively. ight chair 95F, 96, a	chain) have b variable reg	een	
Positions 258 an revised by the a The position number should read as 99 and 1	d 263 of MOPC uthors to Pro ar bering for the c5. 95A, 95B, 95C	173 (heavy nd Val respected on the codons of 1 codons	constant ctively. ight chair 95F, 96, a	chain) have b variable reg	een	
Positions 258 an revised by the a The position number should read as 99 The human kappa (1982) J. Biol. (d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516 J2 J TAC TYR TTC	173 (heavy nd Val respectively nd Val respective	constant ctively. ight chair 95F, 96, a aizel, J.V. as follows:	chain) have be variable regularly. Jr. & Leder,	een	
Positions 258 an revised by the a The position number of the position number of the position number of the position of the pos	d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516 J2 J ACT THR ACT THR ACT THT PHE TTC	173 (heavy nd Val respected on the val respected on the value of the v	constant ctively. ight chair 95F, 96, a aizel, J.V. as follows: 14 C LEU A THR A	chain) have by variable regular of the chain	een	
Positions 258 an revised by the a The position number of the position number of the position number of the position of the pos	d 263 of MOPC uthors to Pro at bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516 J2 TAC TYR TTC ACT THR ACT TTT THE TTC GGC GLY GGC	173 (heavy nd Val respected on the val respected on the value of 1. 95D, 95E, er, P.A., Mr. 1522) are at the value of the	constant cotively. ight chair 95F, 96, a sizel, J.V. as follows: LEU A TERR AG THE THE TERR AG THE THE TERR AG T	chain) have by variable regular of the chain	een	
Positions 258 an revised by the a revised by the a The position number of the position number of the position number of the human kappa. (1982) J. Biol. (1982	d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516 J2 J TAC TYR TC ACT TTT PHE TTC GGC GLY GGC CCC GGC GGLY GGC	173 (heavy nd Val respected on the val respected on the value of the v	constant cotively. ight chair 95F, 96, a sizel, J.V. as follows: LEU A: THR AA C PHE T: CILY CO	chain) have by the variable regular of the chain of the c	een	
Positions 258 an revised by the a revised by the a The position number of the position number of the position number of the position of the po	d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516 J2 J ACT THE ACT THE ACT TTT PHE ITC GGC GLY GGC AGC GLY GGC AGC GLY ACC THER ACC AAG LXS AAAA	173 (heavy and val respectations of 1 respectations	constant cotively. ight chair 95F, 96, a sizel, J.V. as follows: LEU A TERN AC CLY GGLY GGLY GGLY GGLY GGLY GGLY GGLY	chain) have by variable regular of the chain	een	
Positions 258 an revised by the a revised by the a The position number of the position number of the position number of the position of the po	d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516 J2 J TAC TYR TTC ACT THR ACT TTT PHE TTC GGC GLY GGC CAG GLN CCT GGG GLY GGC ACC TER ACC ACC TER ACC ACC TER ACC ACC LEU GTG CTG LEU GTG CTG LEU GTG CTG LEU GTG	173 (heavy nd Val respected on the value of 1 c., 95D, 95E, er. P.A., Me-1522) are a company of the value of	constant cotively. ight chair 95F, 96, a sizel, J.V. as follows: LEU A' THR AGE TO FIRE TO GLY	chain) have by variable regular of the chain	een	
Positions 258 an revised by the a revised by the a The position number of the position number of the position number of the position of the po	d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C Ut-segments (Hiet Chem., 257, 1516 Ut-segments (Hiet Che	173 (heavy nd Val respected on the value of value of the	constant cotively. ight chair 95F, 96. a mizel, J.V. as follows: LEU A' THER AG GLY CA GLY CA CLYS CG VAL CT VAL CT GLU GA	chain) have by variable regular of the chain	een	
Positions 258 an revised by the a revised by the a The position number of the position number of the position number of the position number of the position of	d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516 J2 TAC TYR TTC ACT THR ACT TTT PHE TTC GGG GLY GGC CAG GLN CCT GGG GLY GGC ACC TER ACC ACC TER ACC ACC TER ACC ACC LEU GTG ACC TER ACC ACC LEU GTG ACC LEU GTG ACC TER ACC ACC LEU GTG ACC ACC ACC LEU GTG ACC	173 (heavy and val respectively services of large services of larg	constant cotively. ight chair 95F, 96, a sizel, J.V. as follows: LEU A' THR AA COLY CALL CALL CALL CALL CALL CALL CALL CA	chain) have by variable regular of the characters, Jr. & Leder, Jr. & Leder, Jr. & Constant of the characters of the cha	een	
Positions 258 an revised by the a revised by the a The position number of the position number of the position number of the position number of the position of	d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516 J2 TAC TYR TTC ACT THR ACT TTT PHE TTC GGC GLY GGC CAG GLN CCT TTT PHE GGC GGC GLY GGC ACC TER ACC AAC LYS AAA ACC LYS AAA	173 (heavy nd Val respected on Val respe	constant ctively. ight chair 95F, 96, a sizel, J.V. as follows: LEU A' THER AG CLY GG CLY GLU GA TILE AT	chain) have by variable regular of the characters, Jr. & Leder, Jr. & Leder, Jr. & Constant of the characters of the cha	een	
Positions 258 an revised by the a revised by the a The position number of the position number of the position number of the position number of the position of	d 263 of MOPC uthors to Pro ar bering for the c 5. 95A, 95B, 95C J-segments (Hiet Chem., 257, 1516 J2 TAC TYR TTC ACT THR ACT TTT PHE TTC GGG GLY GGC CAG GLN CCT GGG GLY GGC ACC TER ACC ACC TER ACC ACC TER ACC ACC LEU GTG ACC TER ACC ACC LEU GTG ACC LEU GTG ACC TER ACC ACC LEU GTG ACC ACC ACC LEU GTG ACC	173 (heavy and val respectively services of large services of larg	constant cotively. ight chair 95F, 96, a sizel, J.V. as follows: LEU A' THR AA COLY CALL CALL CALL CALL CALL CALL CALL CA	chain) have by variable regular of the characters, Jr. & Leder, Jr. & Leder, Jr. & Constant of the characters of the cha	een	
	The antibody light chains) SAPC178 and S and S176. References for chains) should (1970) Nature, S and S176. References for Casari, I.M. 2112-2116. J558, XS104, completely, w (mouse lambda compositions. There is an addight chains) (1981) Fed. Pro. The statement i the genes has be replaced b J2-C2-J4-C4." Positions 13 am Gln and Lys res; C and Gly respectige to the statement of the genes has be replaced b J2-C2-J4-C4."	The antibody specificities of light chains) should by anti- SAPC178 and SAPC176 (mouse lead of should by anti- SAPC178 and SAPC176 (mouse lead of should be weigert, M. Heferences for HOPC1, J698, Echains) should be Weigert, M. Clark (1970) Nature, 228, 1045-1047 References for W3159 and MOPC1 Cesari, I.M. & Weigert, M. 2112-2116. J558, XS104, and S178 (mouse completely, while HOPC1, J6 (mouse lambda light chains) compositions. There is an additional referentight chains) i.e., Elliott (1981) Fed. Proc., 40, 1098. The statement in the notes of the genes has been determined be replaced by "There are J2-02-J4-C4." Positions 13 and 14 of CAM (hunglin and Lys respectively. Positions 142 and 143 of MOPC3 and Gly respectively, based on (Bothwell, A.L.M., Paskind, M.,	The antibody specificities for 10K44-7A1 The antibody specificities for 10K44-7A1 The antibody specificities for 10K44-7A1 Iight chains) should by anti-p-azobenzer SAPC178 and SAPC176 (mouse lambda light and S176. References for HOPC1, J698, H2061, S176, chains) should be Weigert, M., Cesari, (1970) Nature, 228, 1045-1047. References for W3159 and MOPC511 (mouse lambda completely, while HOPC1, J698, H2061, (mouse lambda light chains) were anal completely, while HOPC1, J698, H2061, (mouse lambda light chains) were anal compositions. There is an additional reference to TEPC9 light chains) i.e., Elliott, B.W., Jr (1981) Fed. Proc., 40, 1098. The statement in the notes of mouse lambda the genes has been determined as V1-J3-Ci be replaced by "There are two linkag J2-C2-J4-C4." Positions 13 and 14 of CAM (human heavy chain and Lys respectively. Positions 142 and 143 of MOPC315 (light coand Gly respectively, based on the translations (Bothwell, A.L.M., Paskind, M., Roth, M.,	The antibody specificities for 10K44-7A1 and 10K. SAPC178 and SAPC176 (mouse lambda light chains) should be Weigert, M., Cesari, I.M., Yonko chains) should be Weigert, M., Cesari, I.M., Yonko (1970) Nature, 228, 1045-1047. The References for W3159 and MOPC511 (mouse lambda light chains) completely, while HOPC1, J698, H2061, S176, H2020 (mouse lambda light chains) were analyzed by a compositions. There is an additional reference to TEPC952 and MA (1981) Fed. Proc., 40, 1098. The statement in the notes of mouse lambda light chains be replaced by "There are two linkage groups: J2-02-J4-C4." Position 17 of S43 CL (light constant chain should Positions 142 and 143 of MOPC315 (light constant chain and Gly respectively, based on the translation from to (Bothwell, A.L.M., Paskind, M., Roth, M., Imanishi-Xa	4 The antibody specificities for 10K44-7A1 and 10K26-12A1 (mouse light chains) should by anti-p-azobenzene arsonate. 3 SAPC178 and SAPC176 (mouse lambda light chains) should be named as and S176. 4 Heferences for HOPC1, J698, H2061, S176, and H2020 (mouse lambda chains) should be Weigert, M., Cesari, I.M., Yonkovich, S.J. & Cot (1970) Nature, 228, 1045-1047. 7 References for W3159 and MOPC511 (mouse lambda light chains) should be desart, I.M. & Weigert, M. (1973) Proc. Natl. Acad. Sci. U.S.A. 2112-2116. 8 J558, XS104, and S178 (mouse lambda light chains) were seque (mouse lambda light chains) were analyzed by amino acid sequences and distinct chains) were analyzed by amino acid sequences and distinct chains i.e., Elliott, B.W., Jr., Steiner, L.A. & Eisen, (1981) Fed. Proc., 40, 1098. The statement in the notes of mouse lambda light chains, "The order the genes has been determined as V1-J3-C3-J1-C1-V2-J2-C2-J4-C4," she replaced by "There are two linkage groups: J3-C3-J1-C1 Positions 13 and 14 of CAM (human heavy chain subgroup III) should Gln and Lys respectively. Positions 142 and 143 of MOPC315 (light constant chain) should be and Gly respectively, based on the translation from nucleotide sequences and Gly respectively, based on the translation from nucleotide sequences and Gly respectively.	The antibody specificities for 10K44-7A1 and 10K26-12A1 (mouse kappa light chains) should by anti-p-azobenzene arsonate. SAPC178 and SAPC176 (mouse lambda light chains) should be named as S178 and S176. References for HOPC1, J698, H2061, S176, and H2020 (mouse lambda light chains) should be Weigert, M., Cesari, I.M., Yonkovich, S.J. & Cohn, M. (1970) Nature, 228, 1045-1047. References for W3159 and MOPC511 (mouse lambda light chains) should be 2112-2116. J558, XS104, and S178 (mouse lambda light chains) were sequenced completely, while HOPC1, J698, H2061, S176, H2020, W3159, and MOPC511 (compositions. There is an additional reference to TEPC952 and MA8-13 (mouse lambda light chains) i.e., Elliott, B.W., Jr., Steiner, L.A. & Eisen, H.N. (1981) Fed. Proc., 40, 1098. The statement in the notes of mouse lambda light chains, "The order of the genes has been determined as V1-J3-C3-J1-C1-V2-J2-C2-J4-C4," should be replaced by "There are two linkage groups: J3-C3-J1-C1 and J2-C2-J4-C4." Positions 13 and 14 of CAM (human heavy chain subgroup III) should be GIn and Lys respectively. Positions 142 and 143 of MOPC315 (light constant chain) should be Ser and Gly respectively, based on the translation from nucleotide sequences (Bothwell, A.L.M., Paskiad, M., Roth, M., Tamishi-Xari, T. Pelicities.





SEQUENCES OF PROTEINS OF IMMUNOLOGICAL INTEREST

Tabulation and Analysis of Amino Acid and Nucleic Acid Sequences of Precursors, V-Regions, C-Regions, J-Chain, β_2 -Microglobulins, Major Histocompatibility Antigens, Thy-1, Complement, C-Reactive Protein, Thymopoietin, Post-gamma Globulin, and α_2 -Macroglobulin

1983

Elvin A. Kabat*, Tai Te Wu[†], Howard Bilofsky [‡], Margaret Reid-Miller[‡], and Harold Perry[‡]

*Depts. of Microbiology, Human Genetics and Development, and Neurology, Cancer Center/ Institute of Cancer Research, College of Physicians and Surgeons, Columbia University, New York, NY 10032 and the National Institute of Allergy and Infectious Diseases, Bethesda, MD 20205

† Depts. of Biochemistry, Molecular Biology, and Cell Biology, and Engineering Sciences and Applied Mathematics, Northwestern University, Evanston, IL 60201 and the Cancer Center, Northwestern University Medical School, Chicago, IL 60611

‡Bolt Beranek and Newman Inc., Cambridge, MA 02238

The collection and maintenance of this data base is sponsored through Contract N01-RR-8-2118 by the following components of the National Institutes of Health, Bethesda, MD 20205:

Division of Research Resources
National Cancer Institute
National Institute of Allergy and Infectious Diseases
National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases
National Institute of General Medical Sciences

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES Public Health Service National Institutes of Health (1983)

THE HEALTH SCIENCES LIBRARY

Sanofi/Regeneron Ex. 1029, pg 904



Our listing of sequences will be kept up to date. Investigators are invited to send additional sequence data when accepted for publication. Send two copies of the manuscript together with a letter of acceptance from a journal to:

Dr. E.A. Kabat National Institutes of Health Building 4, Room 337 9000 Rockville Pike Bethesda, Maryland 20205

If a computer tape is available, please send it to facilitate entering sequences.

When published, three reprints should be provided.

If any published sequences have been overlooked or if any errors are found, please bring them to our attention.



Sanofi/Regeneron Ex. 1029, pg 905

												246										
CC	DONS	OF VAR	2	а	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
_		HK101	HK102	MOPC 41	MOPC 21	MOPC 167	MOPC 149 (K2)	K2A	MPC 11	MOPC 179B	S107 B	T1	L6	T2	Ĺ7	PKAPPA (11)24 GGA	IG99 LAMBDA	IG13 LAMBDA	IG303 LAMBOA	\$43	MOPO 315	PLAI -13
	0 1 2 3	GAC ATC CAG	GAC ATC CAG ATG	GAC ATC CAG ATG	AAC ATT GTA	GAT ATT GTG	GAC ATC CAG	GAC ATC CAG ATG	GAC ATT GTG	GAC ATC CAG	GAA AAT GTG	GAC ATC AAG	GAC ATC AAG	GAC ATC TTG	GAC ATC TTG	GAC ATT GTG	CAG GCT GTT	CAG GCT GTT	CAG GCT GTT	CAG GCT GTT	CAG GCT GTT	
	4 5 6 7	ATG ACC CAG TCT CCA	ATG CAG TOT	400	ATG ACC CAA TCT	ATA ACC CAG GAT	ATG ACT CAG	ACT	AGC CAA	ACC CAG	AGC CAG TCT CGA	ACC CAG TCT	ACC CAG TCT	ACT CAG TCT	ACT CAG TCT	ATG ACC CAG TCT	ACT CAG	GTG ACT CAG	GTG ACT CAG	ACT CAG	ACT CAG	
c	9 10	TCA	CCT TCC ACC CTG	CAG TCT CCA TCC TCC	AAA TCC	GAA CTC TCC	CAG TCT CCA GCC TCC	CAG TCT CCA GCC TCC	CAA TCT CCG GCT	CAG TCT CCA TCC	GCA	TCT	TCT	GCC	GCC ATC CTG	CAC AAA TTC	GAA TGT GCA	GAA TCT GCA	GAA TCT GCA	GAA TCT GCA	GAA TCT GCA	GCA
1	11 12 13 14	CTG TCT GCA TCT	CTG TGT GCA TGT	TTA TCT GCC TCT	ATG TCC ATG TCA	AAT CCT GTC ACT	CTA TCT GCA TCT	CTA TCT GCA TGT	GCT GTG TCT	TTA TCT GCC TCT	ATG GCT GCC TCT	ATG TAT GCA TCT	ATG TAT GCA TCT	ATC CTG TCT GTG AGT	CTG TCT GTG AGT	ATG TCC ACA TCA	GTC ACC ACA TCA	CTC ACC ACA TCA	ACA ACA TCA	CTC ACC ACA TCA	ACC ACA TCA	CTC ACC ACA TCA
	15 16 17	GTA GGA GAC	GTA GGA GAC	CTG GGA GAA	GTA GGA GAG	TCT GGA GAA	GTG GGT GAA ACT	GTG GGT GAA	GTA GGG CAG	CTG GGA GAA AGA GTC	CTG GGG CAG AAG GTC	GTA GGA GAG	GTA GGA GAG	CCA	CCA GGA GAA	GTA GGA GAC AGG	GGT GGA ACA GTC	CCT GGT GGA	GCT GGT GAA ACA GTC	CCT GGT GAA	GGT GGA	CCT
	18 19 20 21	AGA GTC ACC ATC	AGA GTC ACC ATC	AGA GTC AGT CTC	AGG GTC ACC TTG	TAC GTT TCC ATC	ACC ACC ATC	ACT GTC ACC ATC	AGG GCC ACC ATA	AGT AGT CTC	ACC	AGA GTC ACT ATC	AGA GTC ACT ATC	GAA AGA GTC AGT TTC	AGA GTC AGT TTC	AGC ATC ACC	GTC ACA CTC	ACA GTC ATA CTC	GTC ACA CTC	ACA GTC ACA CTC	ACA GTC ATA CTC	GAA ACA GTC ACA CTC
_	22 23 24	ACT TGT CGG	ATC ACT TGC CGG	CTC ACT TGT CGG	ACC TGC AAG	TGG	TGT CGA	ACA TGT CGA	ATA TCC TGC AGA	TGC CGG	ACC TGC AGT	TGC	ACT TGC AAG	TCC TGC AGG	TGC TGC AGG	AAG	TGT CGC	ACT TGT CGC	TGT	TGT	TGT	TGT
	25 26 27 27A	GCG AGG CAG	GCC AGT CAG	GCA AGT CAG	GCC AGT GAG		GCA AGT GGG	AGT GGG	GGC AGT GAA AGT	GCA AGT CAG	GCC AGC TCA	GCG AGT CAG	GCG AGT CAG	GGC AGT CAG	GCC AGT CAG	GCC AGT CAG	TCA AGT ACT	TGA AGT ACT	ACT ACT	AGT ACT	TCA AGT ACT	TCA AGT ACT
CD	27B 27C 27D	===							GTT GAT AGT	===							GGG	GGG	GGG	GGG	ĜĞĞ	
1	27E 27F 28 29	GGT	ĀĞT	GAC	AAT GTG		ĀĀT ATT	ĀĀT ATT	TAT	GAC	AGT GTA	GAC	GAC	AGC ATT	AGC ATT	GAT GTG	GCT GTT ACA ACT	GCT GTT ACA ACT	GCT GTT ACA ACT	GCT GTT ACA ACT	GCT GTT ACA ACT	GCT GTT ACA ACT
	30 31 32 33	AGC AGC TGG TTA	AGT AGC TGG TTG	ATT GGT AGT AGC TTA	GTT ACT TAT GTT		CAC AAT TAT TTA	CAC AAT TAT TTA	AAT AGT TTT ATG	CAT GGT TAT TTA	AGT TOC AGT TAC	AAT AGC TAT TTA	AAT AGC TAT TTA	GGC ACA AGC ATA	GGC ACA AGC ATA	AGT ACT ACT GTG	AGT AAC TAT GCC	AGT AAC TAT GCC	GGT AAC TAT GCC	AGT AAC TAT GCC	AGT AAC TAT GCC	
_	34 35 36	GCC TGG TAT	GCC TGG TAT	TGG CTT	TGG TAT		GCA TGG TAT	GCA TGG TAT	CAC TGG TAC	AAC TTG TTT	CAC TGG	TGG TTC	TGG TTC	TGG TAT	TGG TAT	GCC TGG TAT	TGG GTC	TGG GTT	AAC TGG GTC	AAC TGG GTC	TGG ATC	
	37 38 39	CAG CAG AAA	CAG CAG AAA	CAG CAG GAA	CAA CAG AAA		CAG	CAG CAG	CAG	CAG CAG AAA	CAG	CAG	CAG	CAA CAA AGA	CAG CAA AGA	CAG CAG AAA	GAA GAA AAA	GAA GAA	GAA GAA	GAA GAA	GAA AAA	
	40 41 42 43	GCA GAG AAA GCC	GGG AAA GCC	CCA GAT GGA ACT	CCA GAG CAA TCT		CAG GGA AAA TCT	CAG GGA AAA TCT	CCA GGA CAG CCA	CCA GGT GAA ACT	AAG TCA GGC GCT	CCA GGG AAG TCT	GGG AAA TCT	ACA AAT GGT TCT	ACA AAT GGT TCT	CCA GGG CAA TCT	CCA GAT CAT TTA	CCA GAT CAT TTA	CCA GAT CAT TTA	CCA GAT CAT TTA	CCA GAT CAT TTA	
	44 45 46 47	AAG TCC CTG	CCT AAG CTC CTG	ATT AAA CGC CTG	CCT AAA CTC TTA		CAG CTC CTG	CCT CAG CTC CTG	CCC AAA CTC CTC	ATT AAA CAC CTG	TCC CCC AAA CCC	AAG ACC CTG	ACC	CCA AGG CTT CTC	CCA AGG CTT CTC	CCT AAA CTA CTG	TTC ACT GGT CTA	TTC ACT GGT CTA	TTC ACT GGT CTA	ACT GGT CTA	ACT GGT CTA	
_	48 49 50	TAT GCT	TAT GAT	TAC	TAC GGG	_	GTC TAT	GTC TAT	TAT	TAT GAA	ATT CAT	TAT	TAT	AAG AAG	ATA AAG TAT	TAT TCG	GGT GGT	GGT GGT	GGT GGT	GGT GGT	GGT GGT	
C D R	51 52 53 54	GCT GCA TCC AGT TTG	GCC TCC AGT TTG	GCC ACA TCC AGT	GCC TCC AAC CGG		GCA AAA ACC	AAA ACC	GCA TCC AAC	ACA TCC AAT	AGG ACA TCC	GCA AAC AGA	GCA AAC AGA	GCT TCT GAG	GCT TCT GAG	GCA TCC TAC	ACC AAC AAC	ACC AGC AAC	ACC AAC AAC	ACC AAC AAC	AGC AGC AAC	
	55 56 57	GAA AGT GGG	GAA AGT GGG	GAT TCT GGT	ACT GGG		GCA GAT GGT	GCA GAT GGT	GAA TCT GGG	GAT TCT GGT	AAC CTG GCT TCT	GTA GAT GGG	GTA GAT GGG	TCC ATC TCT GGG	ATC TCT GGG	CGG TAC ACT GGA GTC	CGA GCT CCA GGT	CGA GCT CCA GGT	GGA GCT .CCA GGT	GGA GCT GCA	GGA GCT CCA	
	58 59 60 61	GTC CCA TCA AGG TTC	GTC CCA TCA AGG	GTC GCC AAA AGG	GTC CCC GAT CGC TTC		GTG CCA TCA	GTG CCA TCA	CCT GCC	GTC CCA AAA	GGA GTC CCA	GTC CCA TCA	CCA TCA	ATC CCT TCC	CCT TCC	CCC	GTT GCT GCC	GTT CCT GTC	GTT GCC	GTT GCC	GTT GTC	
	62 63 64	AGC GGC	AGC GGC	AGT GGC	TTC ACA GGT		AGG TTC AGT GGC	AGG TTC AGT GGC	AGG TTC AGT GGC	AGG TTC AGT GGC	GCT CGC TTC AGT	AGG TTC AGT GGC	AGT GGC	AGG TTT AGT GGC	AGG TTT AGT GGC	CGC TTC AC GGC	AGA TTC TCA GGC	AGA TTC TCA GGC	AGA TTC TCA GGC	AGA TTC TCA GGC	AGA TTC TCA GGC	
	65 66 67 68	AGT GGA TCT GGG	AGT GGA TCT GGG	AGT AGG TCT GGG	AGT GGA TCT GCA		AGT GGA TCA GGA	AGT GGA TCA GGA	AGT GGG TCT AGG	AGT AGG TOT GGG	GGC AGT GGG TCT	AGT GGA TCT	AGT GGA TCT	AGT GGA TCA	AGT GGA TCA GGG	AGT GGA TCT GGG	TCC CTG ATT GGA	TCC CTG ATT GGA	TCC CTG ATT GGA	TCC CTG ATT GGA	TCC CTG ATT GGA	
F R 3	69 70 71	ACA GAT TTC	AGA GAA TTC	TCA GAT TAT TCT	ACA GAT TTC		AGA GAA TAT	ACA CAA TAT	ACA	TCA GAT TAT	GGG ACC TCT	GAA GAT TTT		ACA GAT TTT	ACA GAT TTT	ACG GAT TTC	GAC AAG GCT	GAC AAG GCT	GAC AAG GCT	GAC AAG GCT	GAC AAG GCT	===
	72 73 74 75	ACT CTC ACG ATC	ACC ACC ATC	ACC ATC	ACT CTG ACC ATT		TCT CTC AAG ATC	AAG	ACC ACC	CTC ATT	TAC TCT CTC	ACC ATC	ACC ACC	AGT CGT AGC	ACT CTT AGC	ACC ACC ATC	GCC CTC ACC ATC	GCC CTC ACC ATC	GCC CTC ACC ATC	ACC ATC	GCC CTC ACC ATC	
	76 77 78	AGC AGC CTG	AGC AGC CTG	AGC AGC CTT	AGT AGT GTG		AAC AGC CTG	CTG	AAT CCT GTG	AGC CTT	AGC AGC	AGC AGC CTG	CTG	AGT GTG	AAC AGT GTG	AGC AGT GTG	ACA GGG GCA	ACA GGG GCA	ACA GGG GCA	ACA GGG ACA	ACA GGG GCA	
	79 80 81 82	CAG CCT GAA GAT	CAG CCT GAT GAT	GAG TCT GAA GAT	GAA GAA GAC		CAG CCT GAA GAT	GAA	GAG GCT GAT GAT	GAG TCT GAA GAT	GTG GAG GCT GAA	GAA GAT	GAA GAT	TCT GAA GAT	GAG TCT GAA GAT	CAG GCT GAA GAC	CAG ACT GAG GAT	CAG ACT GAG GAT	CAG ACT GAG GAT	CAG ACT GAG GAT	CAG ACT GAG GAT	
CDRS	83 84 85 86	GCA ACT TAT TAC	GCA ACT TAT	GTA GAC TAT	GCA GAT TAT CAC		GGG AGT TAT	GGG AGT TAT	GTT GCA ACC TAT	GCA GAC	GAT	GGA	GGA	GCA GAA	GCA GAT TAT	CTA GCA GTT TAT	GAG GCA ATA TAT	GAT GCA ATG TAT	GAG GCA ATA	GAG GCA ATG TAT	GAT GCA ATG TAT	
	87 88 89	CAA	TAC	TAC	GGA		TAC	TGT	TAC	TAT TAC TOT	TAC	CTT	CTA	TAC TGT	TAC	TAC TGT CAG	TGT	TTC	TAT TTC TGT GCT	TEC	TGT GCT CTA	
	90 91 92 93	CAG TAT AAT AGT	CAG TAT AAT AGT	CAA TAT GCT AGT	CAG GGT TAC AGC		CAT TTT TGG AGT	TTT	CAA AGT AAT GAG	CAA TAT GCT AGT	CAG CAG TGG AGT	GAT	GAT	TAT	CAA AGT AAT AGC	CAA CAT TAT AGT	GCT CTA TGG TAC AGC	CTA TGG TAC AGC	GCT CTA TGG TAC AGC	GCT CTA TGG TAC AGC	TGG TTC AGA	
	94 95 96 97	CCT	TAT	TCT CCG TGG ACG	TAT CCG TAC ACG		CCT	CCT	GAT CCG	CCT	CCA	CCG	CCG	CCA	CCA	ACT CCT CCC ACG	CAT	CAT	AAC CAT TGG GTG	AAC CAT TGG GTG	AAC CAT TTT GTT	
3	97A 97B 97C																			===		
	97D 97E 97F 98			Tro	TTC				 	===	===					TTC			TTC	TTC	TTC	
_	99 100 101 102			TTC GGT GGA GGC ACC	GGA GGG GGG ACC				===		GGC TCG GGG	GGT GCT GGG				GGA GGG GGG ACC			GGT GGA GGA	GGT GGA GGT	GGC GGT GGA	
R 4	103 104 105			AAG CTG GAA	AAG CTG GAA						AAG' TTG GAA	AAG CTG GAG				AAG CTG GAA			ACC AAA CTG ACT GTC	ACC AAA CTG ACT	ACC AAG GTC ACT	
	106 106A 107			AAA	AAA						ATA AAA	AAA				ATA AAA			GTC CTA GGT	ACT GTC CTA GGC	GTC CTA GGT	
	108			CGT							cat	CGT				cee						

Sanofi/Regeneron Ex. 1029, pg 906



DOCKET

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

