#### UNITED STATES DISTRICT COURT CENTRAL DISTRICT OF CALIFORNIA WESTERN DIVISION

## BRISTOL-MYERS SQUIBB COMPANY,

Plaintiff/Counter-Defendant,

v.

GENENTECH, INC., and CITY OF HOPE

Defendants/Counter-Plaintiffs.

ELI LILLY AND COMPANY and IMCLONE SYSTEMS LLC,

Plaintiffs/Counter-Defendants,

v.

GENENTECH, INC. and CITY OF HOPE, Defendants/Counter-Plaintiffs. Case No. 2:13-cv-05400-MRP-JEM

## CONFIDENTIAL

# EXPERT REPORT OF CARLO M. CROCE, M.D.

Case No. 2:13-cv-07248-MRP-JEM

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### I. INTRODUCTION

1. I submit this expert report, pursuant to Federal Rule of Civil Procedure 26(a)(2), on behalf of the defendants, Genentech, Inc. and City of Hope. I expect to testify at trial concerning the matters set forth in this report.

2. If called to testify, I may also explain principles and terminology referred and alluded to in this report as well as the documents referenced herein. I have not prepared at this time any exhibits that I expect to use to illustrate or summarize my testimony at trial.

3. However, I expect to refer to some or all of the information set forth below, and I will prepare any exhibits in accordance with the Court's orders. I also reserve the right to modify, amend and/or supplement the opinions expressed herein – particularly in response to any additional information cited by or opinions offered on behalf of Lilly or BMS.

### II. PROFESSIONAL EXPERIENCE AND QUALIFICATIONS

4. I am the John W. Wolfe Chair in Human Cancer Genetics; Professor and Chairman of the Department of Molecular Virology, Immunology and Medical Genetics; Professor of Medicine; and Director of the Institute of Genetics and of the Human Cancer Genetics Program at Ohio State University in Columbus, OH.

5. My expertise is in the field of genetic mechanisms implicated in the pathogenesis of human cancer. Research performed in my laboratory has resulted in several significant scientific discoveries, including: a) demonstrating the juxtaposition of the human immunoglobulin genes to the *myc* oncogene and the deregulation of *myc* in Burkitt's lymphoma; and b) the discovery of the ALL1 gene (involved in acute leukemias) and the TLC 1 gene (associated with T-cell leukemias). My laboratory was

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also the first to clone and characterize the Bc12 gene which is involved in follicular lymphoma and many other malignancies.

6. My research also focuses on the early events involved in the pathogenesis of lung, nasopharyngeal, head and neck, esophageal, gastro-intestinal and breast cancers. Recently, my laboratory discovered the involvement of microRNA genes in human cancer.

7. I received my M.D. degree, *summa cum laude*, from the University of Rome in 1969. I joined the faculty of the Wistar Institute in Philadelphia, Pennsylvania in 1970 and became a Professor in 1976. From 1980 to 1991, I was an Institute Professor and Associate Director at the Wistar Institute, and from 1980 to 1988 I was the Wistar Professor of Human Genetics at the University of Pennsylvania School of Medicine.

8. From 1988 to 1991, I also held the following positions at Temple University: a) Professor in the Departments of Pathology and Medicine at the School of Medicine; b) Chairman of the Graduate Program in Molecular Biology and Genetics, at the School of Medicine; and c) Director of the Fels Institute for Cancer Research and Molecular Biology.

9. From 1991-2004, I was the Director of the Kimmel Cancer Institute/Kimmel Cancer Center, and the Pugh Professor within and Chairman of the Department of Microbiology/Immunology at Jefferson Medical College of the Thomas Jefferson University, Philadelphia, Pennsylvania.

During the span of my career I have received over 20 awards from various institutions and foundations for cancer research, including: a) the Outstanding
 Investigator Award, from the National Cancer Institute of the National Institutes of

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