BIOGRAPHICAL SKETCH

NAME	POSITION TITLE
Kilpatrick, Michael W.	Vice President, Biology Ikonisys Inc New Haven CT

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
University of Manchester, U.K.	B.Sc.	1975-78	Biochemistry
University of Birmingham, U.K.	Ph.D.	1978-81	Nucleic Acid Chemistry
University of Wisconsin, Madison, WI		1981-82	chromosome structure /gene regulation
University of Alabama, Birmingham, AL		1982-85	chromosome structure /gene regulation
ICRF Clare Hall Laboratories, U.K.		1985	DNA repair

Positions

1985-93 Wellcome Trust Lecturer in Molecular Genetics. Dept of Clinical Genetics, University of Birmingham, U.K.

1992-01 Visiting Professor, Department of Pediatrics, University of Connecticut Health Center, Farmington, CT

2013-16 Laboratory Director, Ikonisys Clinical Laboratories

2001- Vice President, Biology, Ikonisys Inc., New Haven, CT

Summary

Dr. Kilpatrick obtained his PhD in Nucleic Acid Chemistry in 1981 from the University of Birmingham, UK for his studies on the ribonucleic acid of mycoplasma. He then spent periods as a postdoctoral research fellow at the University of Wisconsin-Madison, the University of Alabama at Birmingham and the Imperial Cancer Research Fund laboratories in London, where his research involved the study of chromosome/DNA structure and gene regulation and DNA repair.

In 1985, Dr Kilpatrick joined the faculty of the University of Birmingham UK, as the Wellcome Trust Lecturer in Molecular Genetics, where he was responsible for the introduction of a molecular program for the study of human genetic disease. His work at the University of Birmingham included the mapping of genes for single gene disorders, and cytogenetic and molecular genetic based diagnosis, for both research and patient testing.

Subsequently, Dr Kilpatrick joined the faculty of the University of Connecticut Health Center, where he continued his studies on human genetic disorders.

In 1999, he co-founded Ikonisys Inc., where he currently serves as Vice-President, Biology. Ikonisys develops, produces and distributes diagnostic test for oncology and prenatal applications. The Ikonisys robotic fluorescence microscopy platform was specifically developed for rare detection and analysis.

From 2013-16, Dr Kilpatrick served as the Laboratory Director for Ikonisys CAP-accredited CLIA-certified Clinical Laboratory and he holds a New York State Laboratory Directors License.

Dr Kilpatrick has more than 100 scientific publications (book chapters, manuscripts and abstracts) in the fields of human molecular genetics,. He has served on NIH study sections and his research has been funded by the Medical Research Council, the Wellcome Trust, NATO, the Arthritis and Rheumatism Council and the NIH.

Selected Publications

Nucleic Acid Structure

Intervening sequences in human fetal globin genes adopt left-handed Z helices. Kilpatrick MW, Klysik J, Singleton CK, Zarling DA, Jovin TM, Hanau LH, Erlanger BF, Wells RD. J Biol Chem. 1984 259(11):7268-74.

Kilpatrick MW, Walker RT. The nucleotide sequence of glycine tRNA from Mycoplasma mycoides sp. capri. Nucleic Acids Res. 1980 8(12):2783-6.

Chromosome Structure /Gene regulation

Kilpatrick MW, Torri A, Kang DS, Engler JA, Wells RD. Unusual DNA structures in the adenovirus genome. J Biol Chem. 1986 261(24):11350-4.

Teo I, Sedgwick B, Kilpatrick MW, McCarthy TV, Lindahl T. The intracellular signal for induction of resistance to alkylating agents in E. coli. Cell. 1986 45(2):315-24.

Higgins NP, Collier DA, Kilpatrick MW, Krause HM. Supercoiling and integration host factor change the DNA conformation and alter the flow of convergent transcription in phage Mu. J Biol Chem. 1989 264(5):3035-42.

Mapping of Single Gene Disorders

Location of gene for Gorlin syndrome. Farndon PA, Del Mastro RG, Evans DG, Kilpatrick MW Lancet. 1992 339(8793):581-2.

A split hand-split foot (SHFM3) gene is located at 10q24-->25. Gurrieri F, Prinos P, Tackels D, Kilpatrick MW et al. Am J Med Genet. 1996 Apr 24;62(4):427-36.

Diagnosis and Treatment of Human Genetic Disease

Preimplantation genetic diagnosis in Marfan syndrome.Kilpatrick MW, Harton GL, Phylactou LA, Levinson G, Fugger EF, Schulman JD, Black SH, Tsipouras P. Fetal Diagn Ther. 1996 Nov-Dec;11(6):402-6.

Towards an RNA-based therapy for Marfan syndrome. Kilpatrick MW, Phylactou LA. Mol Med Today. 1998 4(9):376-81.

Phylactou LA, Tsipouras P, Kilpatrick MW. Split-hand/split-foot malformation is caused by mutations in the p63 gene on 3q27. Ianakiev P, Kilpatrick MW, Toudjarska I, Basel D, Beighton P, Tsipouras P. Am J Hum Genet. 2000 Jul;67(1):59-66.

Automated Fluorescence Microscopy

Determination of HER2 gene status by fully automated fluorescence microscopy. Kilpatrick MW, Sheehan CE, Marganski WA, Tafas T, Ross MS, Ross JS. Anal Quant Cytol Histol. 2011 33(4):205-10..

Digitized microscopy in the diagnosis of bladder cancer: analysis of >3000 cases during a 7-month period. Marganski WA, El-Sirgany Costa V, Kilpatrick MW, Tafas T, Yim J, Matthews M. Cancer Cytopathol. 2011 25;119(4):279-89.

Prenatal Diagnosis

Prenatal diagnosis of trisomy 21 through detection of trophoblasts in cervical smears. Sifakis S, Ghatpande S, Seppo A, Kilpatrick MW, Tafas T, Tsipouras P, Fejgin M, Amiel A. Early Hum Dev. 2010 86(5):311-3.

Detection of circulating fetal cells utilizing automated microscopy: potential for noninvasive prenatal diagnosis of chromosomal aneuploidies. Seppo A, Frisova V, Ichetovkin I, Kim Y, Evans MI, Antsaklis A, Nicolaides KH, Tafas T, Tsipouras P, Kilpatrick MW. Prenat Diagn. 2008 28(9):815-21.

Fully automated FISH examination of amniotic fluid cells. Wauters J, Assche EV, Antsaklis A, Tepperberg J, Sharp SM, Kilpatrick MW, Tafas T, Tsipouras P. Prenat Diagn. 2007 27(10):951-5.

A Diagnostic Test for Cervical Cancer

Amplification of the 3q chromosomal region as a specific marker in cervical cancer. Wright TC, Compagno J, Romano P, Grazioli V, Verma Y, Kershnar E, Tafas T, Kilpatrick MW. Am J Obstet Gynecol. 2015 213(1):51.e1-8.

3q26 Gene Amplification in a Woman With Abnormal Cervical Cytology Unconfirmed by Cervical Biopsies. Romano P, Ottenheimer D, Kilpatrick MW, Tsipouras P, Walat RJ. Lab Medicine 2013 44:267-270.

3q26 amplification is an effective negative triage test for LSIL: a historical prospective study. Heitmann ER, Lankachandra KM, Wall J, Harris GD, McKinney HJ, Jalali GR, Verma Y, Kershnar E, Kilpatrick MW, Tsipouras P, Harper DM. PLoS One. 2012 7(7):e39101.

Amplification of the chromosome 3q26 region shows high negative predictive value for nonmalignant transformation of LSIL cytologic finding. Jalali GR, Herzog TJ, Dziura B, Walat R, Kilpatrick MW. Am J Obstet Gynecol. 2010 202(6):581.e1-5.

Circulating Tumor Cells

Detection of circulating tumour cells in peripheral blood with an automated scanning fluorescence microscope. Ntouroupi TG, Ashraf SQ, McGregor SB, Turney BW, Seppo A, Kim Y, Wang X, Kilpatrick MW, Tsipouras P, Tafas T, Bodmer WF. Br J Cancer. 2008 2;99(5):789-95.

Detection and Analysis of Circulating Tumour Cells in Small Cell Lung Cancer

Utilizing a Flexible Rare Cell Scanning Platform. Kilpatrick MW, Kershnar ER, Borgerding RH, Robson P, Sivakamasundari V. EPMA J 2017;8(Suppl1):S9-S10.