

# Special Lecture

## Targeting the Human Kinome: a Rich Source of Targets for Cancer Therapy

**Nicholas B. Lydon**



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The discovery of the Philadelphia chromosome provided the first example of a link between cancer and a recurrent genetic abnormality. This chromosomal translocation results in activation of the Abl protein kinase. Deregulated signaling by protein kinases, which act as molecular switches, has subsequently been shown to be a common theme in the pathophysiology of a number of cancers. The discovery and development of Imatinib provides an early example of the potential of targeted cancer therapy in genetically defined patient populations. Current genomics efforts are providing novel protein kinase candidates for the next generation of targeted therapies.

**Nicholas B. Lydon**

Co-Founder, Director and Scientific Advisory Board Chairman  
Blueprint Medicines  
Co-Founder, Director and Therapeutic/Scientific Advisory Board member  
AnaptysBio Inc  
Founder and Director  
Staurus Parma LLC

**EDUCATION**

- 1975-1978: Biochemistry/Zoology- B.Sc  
Faculty of Sciences, University of Leeds, England, UK
- 1978-1982: Biochemistry- Ph.D.  
Medical Sciences Institute, University of Dundee, Scotland, UK  
Thesis title: Hormonal Regulation of Adenylate Cyclase

**EMPLOYMENT**

- SCHERING-PLOUGH Corporation, Lyon & Paris, France (1982-1985)  
Chargé de Recherché
- Produced panel of monoclonal antibodies against Interferon  $\alpha$  subtypes
  - Protein chemistry and functional studies on Interferon  $\gamma$  and  $\beta$
- CIBA-GEIGY (now Novartis) AG, Basel, Switzerland (1985-1997)  
Team Leader-Tyrosine Protein Kinase Inhibitors
- Pre-clinical Team leader responsible for discovery and preclinical development of Gleevec™ (CGP 57148B/ STI 571)
  - Drug discovery program aimed at the identification of selective tyrosine protein kinase inhibitors, targeting Bcr-Abl, EGF-R/ErbB2, c-Src family, PDGF-R, c-Kit, IGF-1R  
(a number of drugs from this program have been in clinical development)
  - Methods development for kinase expression, purification, enzymology and screening
- Kinetix Pharmaceuticals Inc., Medford, MA, USA (1997-2000)  
Founder and Chief Executive Officer/President
- Amgen Inc., Thousand Oaks, CA, USA (2000-2002)  
Vice President Drug Discovery & Research Informatics
- Responsible for small molecule research and research informatics
  - Motesinib (AMG 706) currently in phase II/III trials
- Avalon Ventures, San Diego, CA, USA (2004-2009)  
Scientific Advisor
- Ambit Biosciences, San Diego, CA, USA (2004-2009)  
Director and Scientific Advisor
- Quizartinib (AC 220) currently in Phase II/III trials for AML
- Present
- Co-Founder, Director and SAB Chairman of Blueprint Medicines, Cambridge, MA, USA  
(<http://www.blueprintmedicines.com>)
  - Co-Founder, Director and Therapeutic/Scientific advisory board member AnaptysBio Inc, San Diego, CA, USA  
(<http://www.anaptysbio.com>)
  - Founder / Director Staurus Parma LLC, San Diego, USA (start-up NewCo)

**MAJOR AWARDS:**

- Ciba Geigy Pharma Forschung Prize (1992)
- Warren Alpert Foundation Prize (2000)
- Twenty First Annual AACR - Bruce F. Cain Memorial Award (2002)
- Charles F. Kettering Prize, General Motors Cancer Research Foundation (2002)
- Lasker-DeBakey Clinical Medical Research Award (2009)
- Honorary Degree of Doctor of Laws, The University of Dundee, Scotland (2011)
- The Japan Prize (2012)
- Fellow of Royal Society, London (2013)
- Royal Society GlaxoSmithKline Prize and Lecture (2014)