

GUEST EDITOR

CURRICULUM VITAE

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Christian B Brechot, MD, PhD

Christian Bréchet has been appointed Executive Director of the French National Institute for Health and Biomedical Research in February 2001. He is a specialist of liver diseases, especially B and C viral hepatitis and liver cancer. He has been director of a mixed Inserm-Pasteur Institute research unit and head of the liver department at Necker Hospital in Paris.

As a Cell biologist and hepatologist, he has contributed to the discovery of new therapeutic approaches for the treatment of hepatitis, of mechanisms involved in the onset of hepatitis B- and C-related liver cancer, to the understanding of cell cycle regulation as well as the impact of HBV and HCV genetic variability.

Academic and hospital appointments

- Director, Inserm research unit 370 ‘hepatocellular carcinogenesis and molecular virology’, Necker School of Medicine, Paris (1993–2001)
- Head of Hybridotest laboratory, Pasteur Institute, Paris (1990–1998)
- Professor of cell biology CHU Necker, Paris (since 1989)
- Head of Liver Unit, Necker-Enfants Malades Hospital, Paris, (1997–2001)
- Head of the National Reference Center on the molecular epidemiology of viral hepatitis, Pasteur Institute and Inserm U370, Paris (1998–2001)

- President of the French National Consortium for Research in Genomics-CNRG (2002–2006)
- Director General of Inserm since February 2001

Education

- Internship Paris hospitals 1975
- MD, Medical thesis: hepatitis B virus infection and liver disease, Broussais Hôtel Dieu School of Medicine, Paris, 1983
- PhD in Biochemistry: hepatitis B virus and primary liver cancer. University Paris-VII, 1985

Major committee assignments and societies

- Member of numerous societies (Secretary of the European Association for the Study of the Liver: 1993–1997)
- WHO study coordinator for the standardization of PCR in the diagnosis of HIV infections
- Member of the ‘Institut universitaire de France’
- Member of the scientific council of the French Blood Agency: 1993–1996
- Member of the scientific committee of Cancer Associations (ARC and LNCC)
- Member of the French national council of universities (CNU) for cell biology: 1993–1999
- Member of Paris’ Scientific Committee since September 2002
- Associate Professor Pasteur Institute, Paris, 2002
- Honorary Professor of Shanghai Jiao Tong University, 2005

Valorization

- Development of ‘Kits’ to detect HBV DNA: collaboration with Abbott laboratories
- Development of ‘Kits’ for the standardization of techniques of *in vitro* gene amplification (PCR): collaboration with Diagnostic Pasteur Sanofi and Roche Molecular System
- Use of cyclin A as a marker of cell proliferation: collaboration with Biomérieux and Immunotech. Inserm patent

Awards

- Awardee of several scientific prizes (including that of the French Academy of Medicine 1996, Jean Valade Award 2000...)

Publications

Over 350 publications in medical and scientific journals, of which 85 with a citation index exceeding 50 and a

factor 'H' of 67. He also ranked fourth in the ISI survey on the most cited authors concerning hepatitis C.

Main publications:

1. Brechot C, Pourcel C, Louise A, Rain B, Tiollais P. (1980). Presence of integrated hepatitis B virus DNA sequences in cellular DNA of human hepatocellular carcinoma. *Nature* **286**: 533–535.
2. Brechot C, Hadchouel M, Degos Flugassy C, Thiers V, Zafrani S, Franco D, Bismuth H, Trepo C, Benhamou JP, Wands J, Isselbacher K, Tiollais P, Berthelot P. (1985). Hepatitis B virus DNA in patients with chronic liver disease and negative tests for hepatitis B surface antigen. *N Engl J Med* **312**: 270–276.
3. Wang J, Chenivresse X, Heinglein B, Brechot C. (1990). Hepatitis B virus integration in a cyclin A gene in hepatocellular carcinoma. *Nature* **343**: 557–557.
4. Murphy M, Stinnakre MG, Senamaud-Beaufort C, Sweeney C, Kubelka M, Carrington M, Brechot C, Sobczak-Thepot J. (1997). Delayed early embryonic lethality following disruption of the murine cyclin A2 gene. *Nat Genet* **15**: 83–86.
5. Barba G, Harper F, Harada T, Kohara M, Goulinet S, Matsuura Y, Eder G, Schaff ZS, Chapman MJ, Miyamura T, Brechot C. (1997). Hepatitis C virus core protein shows an exclusively cytoplasmic localization and associates to cellular lipid storage droplets. *Proc Nat Acad Sci USA* **94**: 1200–1205.
6. Soussan P, Garreau F, Zylberberg H, Ferray C, Brechot C, Kremsdorf D. (2000). *In vivo* expression of a new hepatitis B virus protein encoded by a spliced RNA. *J Clin Invest* **105**: 55–60.
7. Fontaine H, Chaix M-L, Lagneau J-L, Brechot C, Pol S, a French multicentric study group. (2000). Recovery from chronic hepatitis C in long-term responders to ribavirin plus interferon-alpha. *Lancet* **356**: 41.
8. Gordien E, Rosmorduc O, Peltekian C, Garreau F, Brechot C, Kremsdorf D. (2001). Inhibition of hepatitis B virus replication by the interferon-inducible MxA protein. *J Virol* **75**:2684.
9. Perlemuter G, Sabile A, Letteron P, Vona G, Topilco A, Samson-Bouma ME, Chretien Y, Pessayre D, Koike K, Chapman J, Barba G, Brechot C. (2002). Hepatitis C virus core protein inhibits microsomal triglyceride transfer protein activity and very low density lipoprotein secretion: a model of viral-related steatosis. *FASEB J* **16**: 185–194.
10. Carnot F, Zavala F, Joulin V, Kremsdorf D, Brechot C. (2002). Paracrine *in vivo* inhibitory effects of hepatitis B virus X (HBx) protein on liver cell proliferation: a new mechanism of HBx-related pathogenesis. *Proc Natl Acad Sci (USA)* **99**:6991–6996.
11. Simon MT, Pauloin A, Normand G, Lieu HT, Mouly H, Pivert G, Carnot F, Tralhao JG, Brechot C. (2003). HIP/HAP stimulates liver regeneration after partial hepatectomy and combines mitogenic and anti-apoptotic functions through the PKA signaling pathway. *FASEB J* **17**:1141–1150.
12. Faivre J, Clerc J, Gerolami R, Herve J, Longuet M, Liu B, Roux J, Moal F, Perricaudet M, Brechot C. (2004). Long-term radioiodine retention and regression of liver cancer after Sodium Iodide Symporter gene transfer in Wistar rats. *Cancer Research* **64**: 8045–8051.
13. Girard S, Vossman E, Misek DE, Podevin P, Hanash S, Brechot C, Beretta L. (2004). NS5A-regulated gene expression and signaling revealed by microarray and comparative promoter analyses. *Hepatology* **40**: 708–718.
14. Mancini-Bourgine M, Fontaine H, Scott-Algara D, Pol S, Brechot C, Michel ML. Induction or expansion of T-cell responses by a hepatitis B DNA vaccine administered to chronic HBV carriers. *Hepatology* **40**: 874–882.
15. Pavio N, Boucreux D, Battaglia S, Arnulf B, Sobesky R, Hermine O, Brechot C. (2005). Hepatitis C virus core variants isolated from liver tumor but not from adjacent non tumor interact with Smad3 and inhibit the TGF-beta signaling. *Oncogene* **24**:6119–6132.