

**Josep M. Llovet, MD** (Barcelona, Spain/ New York, USA)



Josep M. Llovet is **Professor of Research-ICREA** in the BCLC Group, Liver Unit, IDIBAPS-Hospital Clínic of Barcelona (Spain), **Director of the Liver Cancer Program and Full Professor of Medicine** at the Mount Sinai School of Medicine, New York University (USA), and **Professor** at Faculty of Medicine, University of Barcelona. Professor Llovet obtained his degree in Medicine and Surgery from the University of Barcelona in 1986 and his PhD from the Autonomous University of Barcelona in 1995.

Professor Llovet has been **President of the International Liver Cancer Association (ILCA)** and Chairman of the European Clinical Practice Guidelines of management of liver cancer (EASL-EORTC). He has published more than 230 articles in peer-reviewed journals such as *New England Journal of Medicine*, *Nature*, *Nature Genetics*, *Lancet*, *Lancet Oncology*, *Cancer Cell*, *Nature Biotech*, *Nature Com*, *Nature Rev Clin Oncol*, *J Clin Oncol*, *J Clin Invest*, *JNCI* and *Gastroenterology* (total citations 41.962, total impact factor 2541; **h index 81**), more than 40 chapters of books, and has delivered more than 500 lectures. He is Senior Editor of *Clinical Cancer Research*. He is Director of the Official Master in Translational Medicine at the University of Barcelona.

During the last 20 years, Dr. Llovet received the AACR-Landon International Award (2009), the International Hans Popper award (2012), Premi Josep Trueta (2013) and was nominated as Fellow of the American Association for the Study of Liver Diseases(2015). He has received competitive funding from the European Commission (FP7- HEALTH, HEPTROMIC, 2010; HEP-CAR, Horizon 2020) and the US National Institute of Health (R01, 2008; NCI designation 2015). Below, find described the scientific and managerial positions and the main scientific achievements obtained. He has contributed to advancing knowledge in the following areas:

### **Main achievements**

- 1. Clinical classification of HCC:** with the acronym BCLC (Barcelona-Clínic Liver Cancer) classification, first published in Llovet, *Semin Liv Dis* 1999, and then further modified in Llovet, *Lancet* 2003; Llovet, *J Natl Can Inst*, 2008 and Forner, *Lancet* 2012. This classification has been adopted by American (AASLD) and European (EASL-EORTC) guidelines of management of HCC.
- 2. Establishment of sorafenib as standard of care** in patients with advanced HCC (Llovet, *New Engl J Med* 2008). This breakthrough achievement establishes sorafenib as first line treatment for advanced HCC, and represents the first identification of survival advantages with systemic treatments. Identified by *Nature Medicine* as the most cited paper in oncology 2008-2010. Adopted by American (AASLD) and European (EASL-EORTC) guidelines of management of HCC.
- 3. Molecular classification of HCC and intrahepatic cholangiocarcinoma:** A final proposal of a molecular classification of HCC and ICC is based on the results reported in different publications (Wurmbach, *Hepatology* 2007;

Hoshida, *New Engl J Med*, 2008, Chiang, *Cancer Res*, 2008; Hoshida, *Cancer Res* 2009, Villanueva, *Gastroenterology* 2011; Sia, *Gastro* 2013, Hoshida, *Gastroenterology* 2013).

4. **Identification of drivers of oncogenesis as targets for therapies.** Several studies led to the identification of **mTOR pathway** [Villanueva *Gastroenterology*, 2008), **Ras pathway** (Newell, *J Hepatol* 2009), **EGFR pathway** (Keng, *Nature Biotech* 2009), **IGF pathway** ([Tovar, *J Hepatol*, 2011], **Wnt Pathway** (Lachenmeyer, *CCR* 2012), **Notch pathway** (Villanueva, *Gastroenterology* 2012), AEG (Yoo, *J Clin Invest* 2009) . **miRNAs** (Viswanathan, *Nat Genetics* 2009, Toffanin, *Gastroenterology* 2011] and **FGF19** as drivers of hepatocarcinogenesis and potential targets for therapies (Shulze, *Nat Gen* 2015). Regarding ICC, discovery of **FGFR2 fusions** and ARAF mutations as drivers of tumor progression.
5. **Establishment of chemoembolization as standard of care** in patients with intermediate HCC. Evidence-based establishment through randomized controlled trials [Llovet, *Lancet* 2002] and meta-analysis [Llovet, *Hepatology* 2003] of chemoembolization as standard of care in patients with intermediate HCC. Adopted by American (AASLD) and European (EASL-EORTC) guidelines of management of HCC.
6. **Guidelines of management of HCC:** Chair of EASL-EORTC Guidelines, 2012 (*J Hepatol*, 2012, *Eur J Cancer* 2012), and committee member of guidelines of EASL (2001). Leading author of AASLD guidelines for design of clinical trials in HCC (Llovet, *J Natl Cancer Institute*, 2008).
7. **Establishment of a molecular diagnosis of HCC:** Gene-set (3 genes) based diagnosis of HCC reported in Llovet, *Gastroenterology* 2006, and included in EASL-EORTC guidelines.

#### **Scientific and managerial positions:**

1. **Professor of Research-ICREA. HeadLiver Cancer Translational Research Lab, Barcelona-Clínica Liver Cancer Group. IDIBAPS, Liver Unit, Hospital Clínic Barcelona, University of Barcelona (1995-2014).** Dr Llovet has been the PI of more than 50 studies with an overall funding > €12M
2. **Founder (2005) and Director of the Mount Sinai Liver Cancer Program (2003-2014).** Mount Sinai Liver Cancer Program. Icahn School of Medicine at Mount Sinai New York. Dr Llovet organized the Liver Cancer Program 2005, which now includes > 40 faculty with around \$ 7M of annual funding.
3. **Founder (2006), Executive Secretary (2007-2011) and President (2011-2013), and Educational councilor (2013-15) of the International Liver Cancer Association (ILCA),** the first multidisciplinary international association devoted to liver cancer research. The association has organized 7 annual meetings with around 700-800 attendees per year.
4. **Leadership of International Consortia (2003-2016).** Dr. Llovet leads the *HCC Genomic Consortium*, which includes 4 academic centers (USA: Mt Sinai, Dana-Farber Cancer Institute; Europe: Barcelona-BCLC Group; Milan NCI), and have organized a tissue bank with more than 3000 samples.