

PRESS RELEASE – FOR IMMEDIATE RELEASE

## **Results from sequencing of 193 liver tumors performed by IntegraGen identifies potential role of a new virus in the development of liver cancer**

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**EVRY, France (August 24, 2015)** IntegraGen, a leading player in genome analysis, development, and commercialization of molecular diagnostic tests announced today a publication in [Nature Genetics](#) reporting the role of adeno-associated virus type 2 (AAV2) virus in the development of liver cancer. Professor Jessica Zucman-Rossi and her colleagues at Inserm Unit 1162 in Paris, supported in part by a grant from the French National Cancer Institute and exome sequencing services provided by IntegraGen, identified the role of AAV2, a previously considered non-pathogenic virus, in the development of a rare type of liver cancer.

The paper, entitled “*Recurrent AAV2-related insertional mutagenesis in human hepatocellular carcinomas*” reviews results from a study of 193 individuals diagnosed with liver cancer. Utilizing IntegraGen’s genomics platform, the sequencing of these tumors enabled the study’s authors to discover that DNA from the AAV2 virus was inserted into the genome of tumor cells from 11 patients in this series. IntegraGen Genomics then assisted the researchers with the verification of the involvement of this virus with these patient’s cancer by comparing tumor tissue to normal tissue, confirming that the integration of the viral DNA was found more frequently in tumors cells than in healthy cells. Interestingly, 8 of the patients studied did not have cirrhosis and 6 had no risk factors known to be associated with liver cancer. Further studies of the tumor cells from these patients demonstrated that the virus had integrated its DNA into the genome of the patient’s cells which led to the overexpression of genes involved in tumorigenesis..

“Cirrhotic patients typically undergo regular testing to detect the development of cancer, but in 5% of patients with hepatocellular carcinoma, no cirrhosis is present,” stated Jessica Zucman-Rossi, M.D., Ph.D., Professor of Medical Oncology at the Paris Descartes University, Georges Pompidou European Hospital and Director of INSERM Unit 1162 which focuses on the functional genomics of solid tumors. “Our research, which was greatly enhanced by our partnership with IntegraGen, demonstrated the involvement of AAV2 in the pathogenesis of liver cancer in patients with no underlying cirrhosis and represents a new potential new etiology for this disease. Our results also call for caution since AAV2 is frequently used as a gene therapy vector and our results suggest that on rare occasions the insertion of DNA from this virus into genes may promote cell proliferation and tumor growth.”

“IntegraGen is immensely proud to have contributed to this groundbreaking research in the field of hepatocellular carcinoma and to have a co-author on this paper,” said Dr. Bernard Courtieu, IntegraGen’s CEO. “The expertise our team contributed to this important research project identifying the role of AAV2 in the pathogenesis of liver cancer in certain patients demonstrates our leadership in the field of genomics and our ability to assist world-class researchers to fully leverage the latest sequencing technology and to support the publication of their research findings.”

The present study was supported by the French National Cancer Institute (INCA) through the International Cancer Genome Consortium (ICGC), the PAIR-CHC project NoFLIC (also funded by ARC) and the French National League Against Cancer.

## **ABOUT INTEGRAGEN**

IntegraGen is a company that specializes in deciphering the human genome and produces relevant and easily interpretable data for academic and private laboratories. IntegraGen's oncology efforts provide researchers and clinicians with sophisticated tools for analysis and therapeutic individualization of treatment approaches allowing them to tailor therapy to the genetic profiles of patients.

As of December 31, 2014, IntegraGen had 34 employees and generated revenue of €6 million during 2014. Based in the Evry Genopole, IntegraGen also has an office in the U.S. located in Cambridge, Massachusetts.

IntegraGen is listed on Alternext of Euronext Paris (ISIN: FR0010908723 - Ticker: ALINT - Eligible for PEA-SME)

For more information about IntegraGen visit [www.integragen.com](http://www.integragen.com).



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