

## UB TECHNOLOGY LICENSING OPPORTUNITY

**Standardized method and kit for the quantification of hepatitis A virus****Executive summary**

A research group of the University of Barcelona has developed the first standardised method and a kit for an accurate quantification of hepatitis A virus (HAV) in food, clinical and environmental samples by Real time quantification reverse transcription polymerase chain reactions (qRT-PCR). University of Barcelona holds an international patent application and is looking to license out its patent rights.

**Introduction**

HAV infection is the leading cause of acute viral hepatitis throughout the world. HAV is a potential contaminant of food such as bivalve molluscs, fruits and vegetables. Blood, hemoderivates and environmental sources could be infected by HAV as well. In the last decade, gastroenteritis and hepatitis in humans caused by consumption of food contaminated by viruses has been increasingly reported. Norovirus (NoV) and HAV are currently the most significant viral food-borne agents worldwide.

The annual incidence of HAV in Europe is approximately 278.000 cases (WHI, 2000). Therefore it makes necessary the control of its presence in food to ensure the safety.

Food matrices are well-known for their complexity which limits the enteric viruses' detection specifically their efficiency in the quantification. Therefore there is a need for the development of sensitive reliable techniques for the accurate identification and quantification of enteric viruses such as HAV in food samples to ensure the safety of them.

**Description**

The research team of the University of Barcelona has developed a standardised method by real time qRT-PCR for an accurate quantification of HAV in food, clinical, and environmental samples. The possibility to develop a kit for routine diagnostic in these samples is a real breakthrough. This kit would reduce time and labour. The use of this method and its kit monitors the efficiencies of the Ribonucleic acid (RNA) extraction from the sample and the two-step qRT-PCR assay. Altogether it provides an accurate estimation of the number of HAV genomes present in a given sample. The use of these two controls to measure the efficiency of the critical steps for the real-time quantification RT-PCR is a great improvement in order to obtain accurate results.

**Advantages**

- Standard method selected by the European Standardization Body, as a reference method to detect and quantify HAV in foodstuff
- Accurate results are obtained thanks to the new control process during the RNA extraction

**Current stage of development**

The method is available for demonstration and it could be transfer into a diagnostic kit. This methodology is currently standardised for an accurate quantification of HAV in food and clinical samples.

**Goal**

The University of Barcelona is seeking partners preferably with Headquarter or Branch on US and Canadian companies to further develop the technology through a co-development and exclusive license agreement.

**Principal Inventors**

One of the scientists is a key leader opinion in EU. This research is integrated into the activities of CEN (European Committee for Standardization).

**Patent**

International patent application in US and Canada  
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**Reference (AVCRI code)**

AVCRI001 A

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