

## UB TECHNOLOGY LICENSING OPPORTUNITY

**Control for assays based on reverse-transcription PCR****Executive summary**

A research group of the University of Barcelona has developed a new control method to quantify viruses present on different matrices: food, blood, and environmental samples by real-time quantification reverse transcription polymerase chain reactions (qRT-PCR). It is based on the use of non-pathogenic Mengo virus strain.

University of Barcelona holds an international patent application and is looking to license out its patent rights.

**Introduction**

One of the most critical steps of viruses' quantification in assays based on real-time RT-PCR is the nucleic acid extraction. The use of RT-PCR for viral contamination detection in food, blood and environmental samples is limited by an inconsistent Ribonucleic acid (RNA) extraction that may lead to false negative results. Therefore, a control for the measurement of the RNA extraction process needs to be implemented.

Furthermore, the development of sensitive reliable techniques for the accurate quantification of viruses including controls to trace the RNA extraction processes is a clear objective to achieve. Thus, the provision of reagents to be used as controls is desirable for the standardization and validation of such techniques.

The research group from the University of Barcelona has developed a new RNA extraction control method to measure the efficiency of the assays based on real-time qRT-PCR in the quantification of viruses.

**Description**

A non-pathogenic strain of Mengo virus is used as an added control during the critical RNA extraction step. The use of this control in a quantification virus method by RT-PCR is crucial for the accuracy of the final titer of genomes. It allows quantification of different enteric viruses including human and animal picornaviruses (such as enteroviruses, hepatitis A virus (HAV), foot-and-mouth disease virus) or caliciviruses such as norovirus (NoV) that may be present in highly complex samples.

**Advantages**

- The control method could be used in real-time qRT-PCR methods to any virus belonging to enteric viruses such human and animal picornaviruses (HAV), caliciviruses (NoV) and astroviruses.
- The non-pathogenic Mengo virus strain allows accurate and reliable methods to quantify enteric viruses in complex matrices such food samples. Furthermore it is useful for their validation

**Current stage of development**

This methodology is currently standardised for an accurate quantification of HAV in food and clinical samples.

The control method is available to add into methods or diagnostic kits to quantify enteric viruses from food, clinical and environmental samples.

**Goal**

The University of Barcelona is seeking partners preferably with Headquarter or Branch on US and Canadian companies focused on the development of methods to quantify virus by real-time RT-PCR from food, clinical and environmental samples to further develop the technology through a co-development and non- exclusive license agreement.

**Principal Inventors**

One of the scientists is a key leader opinion in EU and 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 B

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