

**To the attention of *in-vitro*  
diagnostics kits manufacturers**

**Strategy and Programs  
Department**

**Valorisation, Partnership,  
Transfer**

Maisons-Alfort, the 9th October 2018

**Subject:** Notice of call for expressions of  
interest

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**N. Réf. :DSP023-2018**

**V. Réf. :**

Dear Madam and Sir,

*Infectious bovine rhinotracheitis* (IBR), *Bovine viral diarrhea* (BVD) and *paratuberculosis* (PTB) are considered as major infectious diseases of cattle and the most costly health problems faced by beef and dairy producers in France. A compulsory eradication program is ongoing for IBR, control and eradication schemes for BVD have been recently implemented at the national level, and voluntary programs are applied at regional levels for getting PTB-free status.

Detection of antibodies by enzyme-linked immunosorbent assay (ELISA) is the most common serological method to diagnose these diseases and is well suited to high-throughput screening. Diagnosis of BVD and PTB is usually performed by using samples submitted to veterinary diagnostic laboratories for IBR surveillance testing. However, separate ELISA tests are required since commercially available ELISA tests are generally designed to detect a single biomarker, which is time-consuming, expensive, and sometimes require large quantities of sample. Multiplex tests, which allow samples to be screened for multiple targets in a single assay, could offer significant advantages for routine serological testing of these diseases.

The Anses laboratory of Ploufragan - Plouzané - Niort, and more particularly its "unit of pathology and well-being of ruminants" based in Niort, is the French reference laboratory for several diseases, including IBR, enzootic bovine leukemia and hypodermosis. It is also the OIE reference laboratory for PTB. Furthermore, It has been mandated by the national sanitary farmer's association (GDS France) as reference laboratory for BVD and PTB since 2013. In regard to these reference activities, a large number of field samples from either heavily infected or officially negative herds located in various geographical regions of

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France was collected between years 2015 and 2017, in collaboration with the professionals from bovine industry. The collections include sera, individual and bulk milk samples. In addition, a collection of sera and milk was generated from non-infected cattle which were vaccinated with IBR gE marker vaccines. Concurrently to the sample collections, a questionnaire was conducted in order to collect epidemiological data. All samples were fully characterized using several commercial ELISA kits as well as gold standards currently used in confirmatory test. Some of them are positive for more than one disease (coinfection).

In its function as reference laboratory, the Anses Niort Laboratory is aiming to improve the efficiency of surveillance systems and to reduce their global costs, leading investigations for possible interconnection between the relevant diseases.

In this way, the Anses Niort Laboratory is seeking a company who has developed a multiplex assay for the simultaneous detection of antibodies to at least IBR, BVD and PTB, and would be interested to evaluate the performances of this assay using large collections of field serum and milk samples. The multiplex serology assay should have the following intrinsic properties:

- Rapid and high-throughput screening, similar or higher than ELISA methods.
- Multiplex capacity of at least 8 diseases, including IBR, BVD and PTB.
- Cost-effective and easily transferable to veterinary diagnostic laboratories for routine diagnosis.

Should you be interested, we would appreciate an answer by **November 6<sup>th</sup> 2018**, along with your proposals for the project.

Please send your reply by e-mail to the following address:

Christophe CORDEVANT  
Knowledge Transfer Officer  
Strategy and Programs Department  
E-mail : [DSP@anses.fr](mailto:DSP@anses.fr)

If you do not answer after that date, I will consider that you are not interested in this proposal.

Please accept, Madam and Sir, the expression of my best regards.

**The Deputy Director General  
Research and Reference**

**GILLES SALVAT**