



## **DIAGNOTRUF**

### ***Development of an easy-to-use and one-minute DIAGNOSis tool to detect the emblematic black TRUFfle (DIAGNOTRUF)***

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*Context* — Edible fungi and especially truffles are important non-wood incomes of the forest ecosystems or truffle fields. In Europe, there are 32 truffle species and ~ 200 in the world. The truffle market is exponentially growing with plantation effort worldwide. Some truffles of different species have common morphological characteristics while they do not have the same organoleptic qualities. This is the case of *Tuber melanosporum* (the black truffle of Périgord), *T. brumale* (a European truffle) and *T. indicum* (the Chinese truffle). Therefore the risk of fraud increased dramatically in the last years.

*Objectives* — The aim of the project DIAGNOTRUF is to use genomic resources generated by UMR IAM to develop a kit to detect without ambiguity the emblematic black truffle *Tuber melanosporum* among others.

*Approaches* — We propose to produce highly-specific antibodies to detect *T. melanosporum*, by mining extensive genomic resources generated by the team. These antibodies will be used in a second step to develop an immunochromatography test.

*Expected results and impacts* — The final aim of the project is to commercialize a strip test similar to a pregnant test to detect specifically *T. melanosporum*. Such tests are commonly used for diagnosis in human health or microbiology.