

## WHAT KIND OF SAMPLES CAN I SEND?

- voucher specimens for reference database
- unknown specimens
- juvenile stages, eggs, larvae
- tissue, feather, hair, skin, scales samples or fragmented specimens

## OUR SERVICE INCLUDES:

Sample preparation, DNA extraction, PCR amplification and Sanger sequencing, taxonomic assignment with references databases, full report

## HOW TO START?

If you are interested in ID-Gene™ barcoding service, either to identify species or reference voucher samples with high quality Sanger sequencing data or to identify multiple specimens using the HTS DNA barcoding approach, please contact us and we will provide you with additional information and material necessary for samples collection and preservation.

## ID-Gene™ **SPECIES IDENTIFICATION**

### A genetic tool to identify species

#### 🔥 The importance of DNA barcoding

DNA barcoding is a rapid and reliable method for identifying species using short DNA fragments. It complements traditional taxonomy by allowing the recognition of species lacking distinctive

morphological characteristics or species represented by undistinguishable tissue fragments, cryptic life-cycle stages (e.g. eggs, larvae) or organic traces only.

#### 🔥 The advantages of barcoding service at ID-Gene™

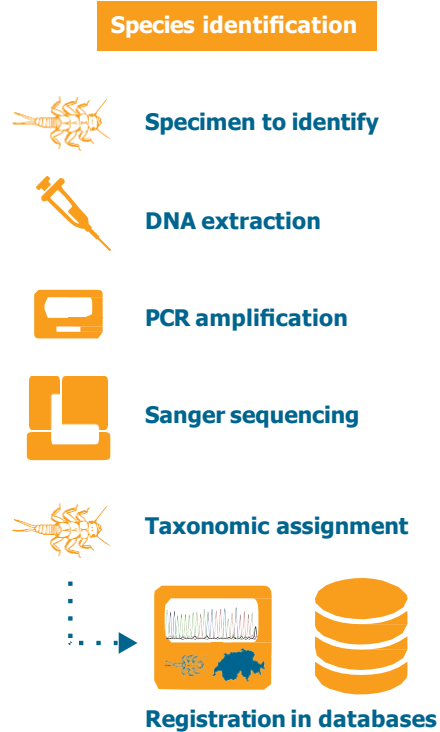
ID-Gene™ propose a service of barcoding following the Swiss Barcode of Life (SwissBOL) recommendations to ensure the high quality of barcoding data and to meet all relevant international and national standards. We work in close collaboration with SwissBOL to ensure proper handling of samples, careful

preservation of voucher specimens and storage of their DNA, and correct editing of DNA sequence data that are added to the international barcode of life data system (BOLD system).



## HOW DOES IT WORK?

Specimens or tissue samples can be sent for genetic identification. The DNA is isolated from obtained material. The DNA barcoding fragment is amplified using appropriate PCR primers and Sanger sequenced. Taxonomic identification to species level is performed using local and public reference databases. If the sample fulfils all the required criteria, the barcoding data may be recorded in the BOLD system reference database.



## High-throughput DNA barcoding (HTS DNA barcoding)

New high-throughput sequencing technologies can also be used to barcode simultaneously large number of specimens. The specimens are sorted individually and processed using ID-Gene™ HTS DNA barcoding technology.

Note that this methodology offers a unique solution to identify multiple specimens.

## OLIGOGEN INDEX

The ID-Gene™ HTS DNA barcoding technology has been successfully tested in the case of OLIGOGEN index. Aquatic oligochaetes are excellent bioindicators of sediment quality in rivers and lakes. However, their common use in ecological diagnostics has been hampered by the difficulty of identifying the oligochaetes to the species level based on morphological features. The HTS DNA barcoding

solves this problem by allowing rapid identification of multiple specimens sorted from environmental samples. Its greatest advantage consists in providing absolute abundance data that are necessary to calculate the Oligochaete Index of Sediment Bioindication (IOBS, AFNOR 2016) for streams and the Oligochaete Index of Lake Bioindication (IOBL, AFNOR 2016).

## HOW DOES IT WORK?

