Contact Form

Microfluidic quantitative PCR service

Since September 2013, the qPCR-HD-GPC platform has been offering high-throughput quantitative PCR services, accessible to the entire scientific community. The aim of this document is to present the different service possibilities and to identify your needs in order to propose a suitable offer.

Plateforme de qPCR Haut-Débit par microfluidique

- **Scientific responsible**: Bertrand DUCOS
- **Technical manager**: Marine DELAGRANGE
- **Contact**

qpcr@biologie.ens.fr

01.44.32.39.19

@ https://qpcr.cnrs.fr/

The qPCR-HD-GPC platform, labelled IBiSA, is part of the Genomic Paris Centre consortium (ISO 9001 and NFX 50-900 certified) which brings together the high-throughput sequencing platforms of the ENS and the Institut Curie.

- **Services and facilities**

We offer a project support system for which the platform participates in the experimental design and takes care of the entire experimental and analytical process in order to provide publication-ready results to project sponsors. The quantitative PCR platform is equipped with Fluidigm's Biomark-HD™ system, a system that allows the simultaneous quantification of the expression of dozens of genes in a large number of samples using microfluidic chips (from 2,304 to 36,960 simultaneous PCR). We also have a chip for the preparation of libraries for targeted sequencing and the C1 system from Fluidigm for the isolation and preparation of single cells before quantitative analysis (qPCR, DNAseq and RNAseq).

Services provided	Equipments
Preparation of isolated single cells	C1 (Fluidigm)
Nucleic acids extraction	RNeasy kit (Qiagen) | other possible kits
RNA quality control	NanoDrop™
	Fragment Analyzer (Agilent Technology)
Nucleic acids retrotranscription	Oriented or specific RT Specific kits (Fluidigm, Exiqon) | other possible kits
cDNA quality control	Fragment Analyzer (Agilent Technology)
Multiplex test	CFX96 (BioRad®)
Calibration test	FlexSix chip (12.12)
Multiplex preamplification	Fluidigm kit
qPCR	Biomark-HD™ and IFC controller (AX, HX and MX)
	FlexSix chip (n_{sample} = 12 et n_{target} = 12)
	48.48 chip (n_{sample} = 48 et n_{target} = 48)
	96.96 chip (n_{sample} = 96 et n_{target} = 96)
	Access Array chip (n_{sample} = 48)
	96 cells chip
Technical validation of the data	Fluidigm software
Normalization of the data and biostatistical analysis	R software

Your project

Project name

Acronym Insert 6 letters

Project leader's name

Function

Mail

Phone

Project leader's laboratory

Laboratory status

☐ **Academic**

☐ **Private**

Laboratory address

Do you have any experience in qPCR ?

☐ **Yes**

☐ **No**

Describe your project and its objectives

Experimental design

What is your biological model ?

How many samples to quantify ?

How many targets would you like to study ?

What are your reference genes ?

Describe the experiments envisaged and the different conditions to analyze and/or compare ?

Which chemistry is envisaged ?

- ☐ **Hydrolysis probes**
- ☐ **EvaGreen**
- ☐ **Other**

Have the probes/primers previously been tested and validated ?

- ☐ **Yes**
- ☐ **No**

What is their annealing temperature ?

°C

Project completion

When would you like to start/finish the project ?

What services would you like the platform to provide ?

- ☐ Single cell sample preparation
- ☐ Nucleic acid extraction
- ☐ miRNA extraction
- ☐ RNA dosage and dilution
- ☐ RNA quality control
- ☐ Retrotranscription
- ☐ Quality control of all cDNA
- ☐ Quality control of some cDNA
- ☐ Multiplex test
- ☐ FlexSix calibration test
- ☐ cDNA multiplex preamplification
- ☐ qPCR quantification
- ☐ Technical validation of the data
- ☐ Data normalization
- ☐ Biostatistical analysis

Technical advice

- Samples should be provided in 96-well DNase/RNase-free plates, in a minimum volume of 5µL. The cells will be subject to a specific protocol to be discussed with the project sponsor.
- We can ensure receipt of the probes/primers directly on the platform. If required, the probes/primers (10µM of each primer) will also be supplied in a DNase / RNase-free 96-well plate. In the case of hydrolysis probes, we offer favourable pricing on TaqmanTM probes in agreement with Thermofisher.
- In case of shipment, it is necessary to plan to use sufficient dry ice to keep the samples/probes/samples frozen for at least 3 days (as an indication, dry ice sublimation is 1kg/24h).
- We recommend quality control of all RNA and cDNA.
- Our technology requires a specific pre-amplification of the samples. This pre-amplification is calibrated on a FlexSix chip.
- With Fluidigm technology technical replicates are not necessary. Biological replicates are strongly recommended to assess biological variability under different experimental conditions.

General terms of cooperation

- The qPCR-HD-GPC platform of the Institut de Biologie de l'École Normale Supérieure performs high-throughput quantitative PCR services according to the operating mode of a collaboration between the user (hereinafter referred to as "the project owner") and the qPCR-HD-GPC platform (hereinafter referred to as "the platform"). The conditions of this collaboration are set out below. Please read them carefully, and sign this document if you accept them.
- The samples are either brought in person or sent to the platform in a dry ice package. The samples must be accompanied by the order form corresponding to the quote and this collaboration document signed by the "project owner". The conservation of the samples is not guaranteed over time by the "platform". If the samples are valuable, they can be recovered by the "project leader" when the project is finished.
- All data produced by the platform on your project is only accessible by the platform's staff. No disclosure of your data is made without your explicit and written consent.
- The research collaboration set up implies that the experimenters associated with the project appear in the list of authors of the first publication presenting the results obtained if the platform participated in the performance of the high-throughput qPCR experiments and/or the analysis of the results. The staff of "the platform" may also participate in the writing of the methods and results part of the article, if the project leader so wishes. In all cases, mention of the participation of the "platform" and the Ile-de-France Region should appear in the acknowledgements section of the publication with the following sentence: "this project was carried out on the qPCR-HD-Genomic Paris Centre core facility and was supported by grants from Région Ile-de-France".
- The information contained in this document is only valid for 6 months from the date of signature of the collaboration conditions and will have to be the subject of a new collaboration if all the planned samples have not arrived on the platform after this period.

Signature of the "project leader" preceded by the words "Read and approved **Signed in , on**	**Signature of the "Platform responsible" preceded by the words "Read and approved** **Signed in , on**