BARC
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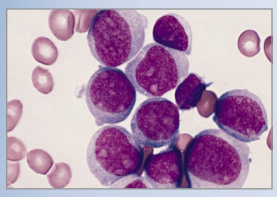
Laboratoire CERBA

GENES PANEL SEQUENCING IN ONCO-HAEMATOLOGY

GENE PANELS IN ONCO-HAEMATOLOGY



Cancer is characterised by uncontrolled cell proliferation. This results from specific acquired alterations of cellular DNA.

Molecular biology techniques, and most recently next generation sequencing of tumour genomes, have enabled the identification of genetic determinants that affect the sensitivity of cancer cells to anti-cancer treatments.

Genetic abnormalities need to be identified in haemopathy cases, in order to allow groups of patients with similar molecular characteristics to be offered treatments adapted to the severity of the disease and/or targeted to the genetic abnormalities found. The number of patients requiring NGS analysis is ever-increasing. Medical prescriptions guided by the molecular analysis of cancers represent a far more precise medicine than conventional chemotherapy and by extension, qualifies them as "personalised medicine" or "precision medicine". The continual arrival of new targeted treatments foreshadows a profound evolution of clinical practice in Onco-Haematology. The molecular analyses involved in this precision medicine impose major technological and organisational changes in the laboratories making use of them.

Several scientific societies have recommended lists of clinically relevant genes by sub-type of malignant haemopathy, the sequencing of which will be included in diagnostic reporting.

Today, Laboratoire Cerba which is at the forefront of innovation in the field of specialised biology at its Saint-Ouen-L'Aumône site close to Paris, possesses the technology and the technical, bioinformatics and medical expertise to carry out very high-throughput sequencing analyses in Onco-Haematology, in accordance with the recommendations of national and international scientific and medical societies. Working in close cooperation with clinicians, Laboratoire Cerba thus joins the limited circle of laboratories capable of carrying out these analyses, bringing access to precision medicine to a greater number of patients.

In practice:

Panels	Myeloproliferative neoplasms (MPN)	Myelodysplastic syndrome (MDS)	Acute myeloid leukaemia (AML)	Pan-Myeloid gene
Number of genes studied	16	32	35	41
Samples	2x5 ml whole blood EDTA	2 ml bone marrow EDTA	2 ml bone marrow EDTA	2 ml bone marrow EDTA
Clinical information	Fill in the oncohaematology form	Fill in the oncohaematology form	Fill in the oncohaematology form	Fill in the oncohaematology form
Time to results	4–6 weeks	4–6 weeks	4–6 weeks	4–6 weeks

INSTRUMENTS AVAILABLE AT LABORATOIRE CERBA:

MiSeqDX

NextSeq 500

HiSeq 1500

LIST OF GENES AVAILABLE (JANUARY 2017):

GENES	EXONS	GENES	EXONS
A SXL1	12	KIT D816 & OTHER	2,8 to 14 and 17
BCOR	full	KRAS	2 and 3
BCORL1	full	MPL	4,10,12
BRA FV600E	15	NPM1	11
CALR	9	NRAS	2 and 3
CBL	8 and 9	PHF6	full
CEBPA	full	PT EN	5 to 7
CSF3R	14 to 17	PT PN11	3 and 13
CSNK1A1	full	RA D21	full
CUX1	full	RUNX1	full
DNMT 3A	full	SET EP1	4 (partial AA 400 to 950)
ET V6	full	SF3B1	11 to 18
EZH2	full	SH2B3	full
FLT3	14+15+20	SRSF2	1
GATA 1	2 and 3	STA G2	full
GATA 2	full	T ET 2	full
GNA S	8 and 9	TP 53	full
IDH1	4	U2AF1 (U2AF35)	2 and 6
IDH2	4	WT1	full
JA K2	12 and 14	ZRSR2	full
KDM6A	full		

Custom gene panels can be designed based on specific request.

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