

PGx Profiler™ Mutation Screening Service*

SERVICE DESCRIPTION

- Screen for up to 380 somatic mutations across 30 oncogenes with as little as 500 nanograms of DNA from FFPE or fresh frozen tissue.
- Multiplex panels include all major MAPK and PI3K pathway oncology targets.
- Performed in collaboration with the leading laboratory in mass spectrometry based sequencing with over 1110 tumor samples tested.

CANCER RELEVANCE:

Classify cancer specimens across 30 cancer genes in real time to provide a complete pharmacogenomic profile.

- Sensitive
- Scalable
- Rapid turn around

MolecularMD PGx Profiler™ Service offers rapid, sensitive detection of up to 380 known somatic mutations across 30 genes involved in cell growth signaling (see Tables for complete listing). Using as little as 500 nanograms of DNA per sample, a complete oncogenic profile can be generated across hundreds of specimens in days instead of months. Two separate panels are offered tailored to somatic mutations in either solid or hematologic tumors.

This powerful service is ideal for screening and cataloging specimens for predictive mutations linked to response or resistance to targeted cancer therapies. Entire libraries of tumor specimen subtypes can be profiled to support biomarker assay development efforts and early phase clinical research programs.

PANEL PROFILES**

Solid Tumor Panel	Genes	Genes
	ABL	GNAQ
	AKT1	HRAS
	AKT2	KIT
	BRAF	KRAS
	CDK4	MEK1
	CTNNB1 (b-catenin)	MEK2
	EGFR	MET
	ERBB2 (HER2)	NRAS
	FBX4	PDGFRA
	FBXW7	PIK3CA
	FGFR1	PTPN11
	FGFR2	RET
	FGFR	SOS1
	FLT3	TP53

Hematologic Tumor Panel	Genes	Genes
	ABL	JAK1
	AKT1	JAK2
	AKT2	JAK3
	AKT3	KIT
	BRAF	KRAS
	CBL	MET
	CBLB	MPL
	FBXW7	NOTCH1
	FES	NPM1
	FGFR4	NRAS
	FLT3	NTRK1
	FMS	PAX5
	GATA1	PDGFRB
	HRAS	PTPN11
	IDH1	SOS1
	IDH2	

* This service is intended for investigational use only. Not for use in clinical diagnostic procedures.

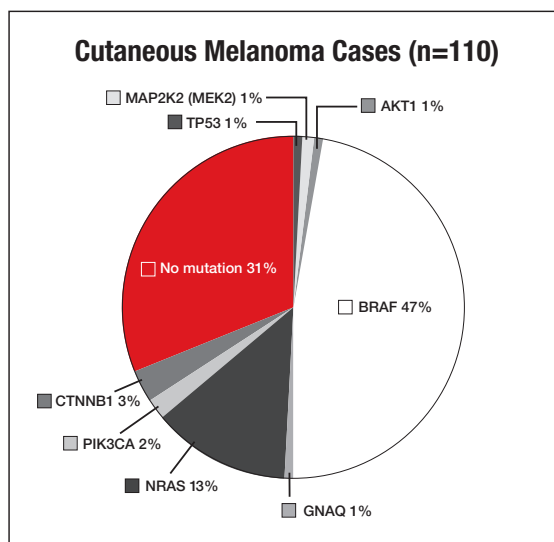
** Specific mutations provided upon request.

SERVICE FEATURES

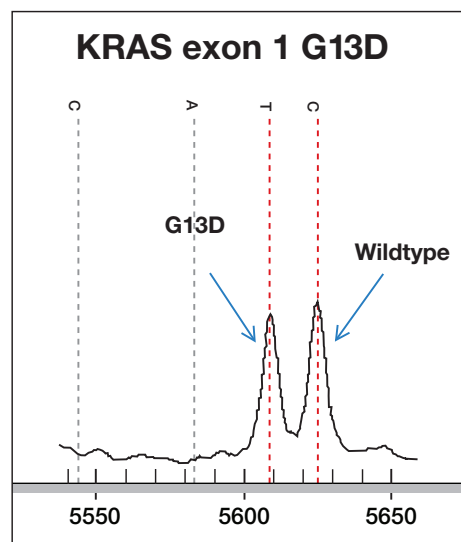
The mass spectroscopy-based sequencing approach has a sensitivity of 10% mutant allele (twice as sensitive as standard sequencing). Mass spec profiles of all positive results are provided with the final analysis report.

The MolecularMD PGx Profiler Service is offered in collaboration with the Laboratory of Dr. Christopher Corless, Oregon Health & Science University. Dr. Corless is co-director of the Pathology Translational Research Laboratory and a leader in the development and performance of mass spectrometry-based multiplex molecular diagnostics.

Process Flow



Mutations identified by PGx Profiler service on 110 cutaneous melanomas (all FFPE tissue).



Mass spectrometry trace of KRAS G13D mutation.

Literature references

THOMAS, R. K., *ET AL.* (2007). High-throughput oncogene mutation profiling in human cancer. *Nat Genet* 39(3): 347-51.

MACCONAILL LE, CAMPBELL CD, KEHOE SM, BASS AJ, HATTON C, *ET AL.* (2009) Profiling Critical Cancer Gene Mutations in Clinical Tumor Samples. *PLoS ONE* 4(11): e7887. doi:10.1371/journal.pone.0007887