

Precision Medicine Services

This area of genetics is about the clinical testing of an individual's genes to understand their likely response to a particular drug, allowing for refined treatment strategies for certain conditions. There are a number of different situations where this genetic testing approach can be advantageous. In certain cancers, genetic variations within the tumour tissue can predict an individual's likely response to a drug used in the treatment of that cancer. Understanding the likely outcome of a drug on the cancer patient helps the clinician to tailor the treatment regime to allow for the best outcome for that patient.

Please contact the laboratory if you require genetic analysis that is not listed as we are continually introducing new services in this area.

Diagnostic services (fully interpretive report). Price available on request

Cancer Type	Testing Available	TAT
Colorectal	Next generation sequencing analysis of codons 12,13,61 & 146 (<i>KRAS</i>)*	10
	Next generation sequencing analysis of codons 12,13,59 & 61 (<i>NRAS</i>)*	10
	<i>KRAS</i> & <i>NRAS</i> analyses (above)*	10
	p.V600E/D/K/R/M pyrosequencing analysis of exon 15 (<i>BRAF</i>)	10
	<i>KRAS</i> , <i>NRAS</i> & <i>BRAF</i> exon 15 analyses*	10
	Microsatellite instability (MSI)	10
GIST	Sequence analysis of exons 12, 14 & 18 (<i>PDGFRA</i>) and exons 9, 11, 13 & 17 (<i>c-KIT</i>)	20
Gliomas	Pyrosequence analysis of codon 132 (<i>IDH1</i>) & codon 172 (<i>IDH2</i>)	10
	1p36/19q13 LOH	10
	<i>IDH1/IDH2</i> & 1p/19q analyses (above)	10
	<i>MGMT</i> methylation analysis	10
	<i>IDH1/IDH2</i> , 1p/19q and <i>MGMT</i> analyses (above)	10
	p.V600E/D/K/R/M pyrosequencing analysis of exon 15 (<i>BRAF</i>)	10
Lung	Next generation sequencing analysis of exons 18-21 (<i>EGFR</i>)*	10
	Droplet digital PCR analysis of common exon 21 sensitising mutation c.2573T>G (p.L858R) and exon 19 deletions, and exon 20 resistance mutation c.2369C>T (p.T790M) (<i>EGFR</i>) Note: this is a circulating tumour DNA service	5
	FISH analysis (<i>ALK</i>)	10
	<i>EGFR</i> & <i>ALK</i> analyses (above)*	10
Melanoma	p.V600E/D/K/R/M pyrosequencing analysis of exon 15 (<i>BRAF</i>)	5
	Sequence analysis of exons 11, 13 & 17 (<i>c-KIT</i>)	20
	Next Generation Sequencing analysis of <i>BRAF</i> p.V600 of exon 15 & <i>c-KIT</i> exons 11, 13 & 17*	20
Sarcoma	FISH analysis as requested – single probe – multiple probes	10

***Please note** – if the NGS service is unavailable, alternative testing methods will be used as appropriate e.g. pyrosequencing, gene fragment length analysis, Sanger sequencing.

Other genes available (please contact the laboratory): all of the genes listed above under 'Diagnostic services' are also available for other tumour types (a non-interpretative report would be issued).

Gene	Testing available	TAT
<i>PIK3CA</i>	Pyrosequence analysis of exons 9 & 20	10
<i>MLH1</i>	<i>MLH1</i> methylation analysis	20
<i>BRAF</i>	Sequence analysis of exons 11 & 15	20
<i>BRCA1/2</i>	Next generation sequencing (NGS) & dosage analysis	40
Panels:	<p>Clinically relevant tumour panel (CRM) - 24 genes (<i>AKT1, ALK, AR, BRAF, CTNNB1, DDR2, EGFR, ERBB2, FGFR3, GNA11, GNAQ, IDH1, IDH2, KIT, KRAS, MAP2K1, MET, NRAS, PDGFRA, PIK3CA, PTEN, RET, STK11, TP53</i>)</p> <p>Actionable mutation tumour panel (TAM) – 8 genes (<i>EGFR exons 2, 18, 19, 20, 21, 22, 23, and 24; KRAS exons 2, 3 and 4; NRAS exons 2, 3 and 4; BRAF exon 15; KIT exons 9, 11, 13 and 17; PDGFRA exons 12 and 18; IDH1 exon 4; IDH2 exon 4</i>)</p> <p>(TAT is dependent on clinical/research requirements and sample numbers being run – please contact the lab for more information) For panels a technical report of findings is provided.</p>	

Contact Details: All Wales Genomics Laboratory, Institute of Medical Genetics, University Hospital of Wales, Heath Park, Cardiff CF14 4XW
 Tel: 029 2074 2641 Fax: 029 2074 4043 Email: lab.genetics@wales.nhs.uk Website: <http://www.wales.nhs.uk/AWMGS/>
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