Stanford HEALTH CARE
STANFORD MEDICINE

HemeSTAMP Gene List

Stanford Tumor Actionable Mutation Panel for Hematopoietic and Lymphoid Neoplasms

Stanford Healthcare & Stanford Children's EPIC Order Codes: LABHSTAMP (Non-blood)

The Stanford Tumor Actionable Mutation Panel for Hematopoietic and Lymphoid Neoplasms (HemeSTAMP) detects single nucleotide variants (SNVs), short insertion-deletions and selected gene fusions in 164 genes recurrently altered in myeloid and lymphoid neoplasms. The Heme Stanford Actionable Mutation Panel for Hematopoietic and Lymphoid Malignancies (Heme-STAMP) is a targeted next generation sequencing method. The workflow includes acoustic shearing of isolated genomic DNA, followed by efficient preparation of sequencing libraries and a targeted enrichment approach to capture genomic regions of interest. The enrichment is accomplished using custom designed libraries of capture oligonucleotides that target a specific set of genomic regions. This panel targets 164 genes, either in part or fully, with the genes selected based on their known impact as actionable targets of existing and emerging anti-cancer therapies, their prognostic features, and/or their mutation recurrence frequency across patients with hematopoietic neoplasms. These genomic features are interrogated to achieve a minimum analytic detection-limit of 5% for SNVs and insertion-deletion variants. Pooled libraries are sequenced on an Illumina sequencing instrument.

Due to inherent limitations of the NGS method, insertion-deletion variants larger than 25 bp are not reliably detected. To detect larger insertion and deletions in key regions of CALR and FLT3, PCR amplification of these regions is performed, followed by capillary electrophoresis fragment analysis.
Genes tested by NGS:

ABL1	CD28	FAS	IGHJ3	MPL	PLCG2	STAT1
AKT1	CD58	FBXW7	IGHJ4	MTOR	PML	STAT3
ALK	CD79A	FGFR3	IGHJ5	MYC	POLE	STAT5B
ANKRD26- promoter	CD79B	FLT3**	IGHJ6	MYD88	POT1	STAT6
APLNR	CD83	FOXO1	IGHM	MYH11	PPM1D	STIL
ARID1A	CDKN2A	FYN	IKZF1	NF1	PRDM1	STX11
ASXL1	CDKN2C	GATA1	IKZF3	NFKB2	PTEN	TAL1
ATM	CEBPA	GATA2	IL7R	NFKBIE	PTPN11	TCF3
B2M	CIITA	GATA3	IRF4	NOTCH1	RAD21	TERT-promoter
BCL2	CKS1B	GNA13	IRF8	NOTCH2	RB1	TET2
BCL6	CREBBP	GNAS	ITK	NPM1	RHOA	TNFAIP3
BCOR	CRLF2	GNB1	JAK1	NRAS	RPS15	TNFRSF14
BCR	CSF3R	HRAS	JAK2	NT5C2	RUNX1	TNFRSF1B
BIRC3	CTLA4	ID3	JAK3	PAX5	S1PR2	TP53
BRAF	CXCR4	IDH1	KDM6A	PDCD1	SETBP1	U2AF1
BTK	DDX3X	IDH2	KIT	PDCD1LG2	SETD2	VAV1
CALR**	DDX41	IGHA1	KLF2	PDGFRA	SF3B1	WHSC1
CARD11	DNMT3A	IGHA2	KLHL6	PDGFRB	SGK1	WT1
CBL	EGR1	IGHG1	KMT2A	PHF6	SH2B3	XPO1
CBLB	EP300	IGHG2	KRAS	PIGA	SMC1A	ZRSR2
CCND1	EPOR	IGHG3	MALT1	PIK3CA	SMC3	
CCND3	ETNK1	IGHG4	MAP2K1	PIK3CD	SOCS1	
CCR4	ETV6	IGHJ1	MAPK1	PIM1	SRSF2	
CD274	EZH2	IGHJ2	MEF2B	PLCG1	STAG2	

For specific regions covered, contact Molecular Pathology Fellows at 650-723-6574.

**FLT3 and CALR are tested by NGS and PCR/fragment analysis to ensure the identification of large indels.

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