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Stanford Actionable Mutation Panel for Solid Tumors

This test covers 130 genes, either in part or fully, at a minimum analytic detection limit of 5%. Genomic positions are given in reference to the GRCh37 (hg19) assembly of the human genome. Genes entirely or partly covered:

ABL1	EGFR	MAP2K1	PPP2R1A
AKT1	EP300	MAP2K2	PTCH1
ALK	EPHA2	MDM2	PTEN
APC	EPHA3	MDM4	PTPN11
AR	ERBB2	MED12	RAC1
ARAF	ERBB3	MET	RAF1
ARID1A	ERBB4	MLH1	RB1
AURKA	ESR1	MPL	RET
BAP1	EZH2	MSH2	RHEB
BCL2	FBXW7	MTOR	RHOA
BCR	FGF3	MYC	RIT1
BRAF	FGF4	MYCL	ROS1
BRCA1	FGFR1	MYCN	SDHD-promoter
BRCA2	FGFR2	MYD88	SETBP1
CASP8	FGFR3	NF1	SETD2
CCND1	FLT3	NF2	SF3B1
CCND2	FOXO1	NFE2L2	SMAD4
CCND3	GATA3	NKX2-1	SMO
CCNE1	GNA11	NOTCH1	SOX2
CDH1	GNAQ	NRAS	SPOP
CDK12	GNAS	NTRK1	SRC
CDK4	HGF	NTRK2	SRSF2
CDK6	HNF1A	NTRK3	STK11
CDKN1B	HRAS	PALB2	TERT-promoter
CDKN2A	IDH1	PCBP1	TP53
CDKN2B	IDH2	PDGFRA	TP63
CHEK2	IGF1R	PDGFRB	TSC1
CREBBP	JAK2	PIK3CA	TSC2
CTNNB1	JAK3	PIK3R1	U2AF1
CUL3	KDR	PLEKHS1-promoter	VEGFA
DDR2	KEAP1	POLD1	VHL
DNMT3A	KIT	POLE	YAP1
DPH3-promoter	KRAS		

Questions? Call (650) 497-8615
Monday-Friday, 9 AM to 5 PM

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Examples of mutations potentially considered actionable in cancers and targeted by this assay include:

AKT1:	E17K
BRAF:	V600G, V600A, V600E, V600K, L597V, Y472C, G469L, G469V, G469A, G466V
CTNNB1:	D32N, D32H, D32Y, D32A, D32G, D32V, S33Y, S33C, S33F, G34E, G34V, S37T, S37P, S37A, S37Y, S37C, S37F, T41P, T41A, T41S, T41N`1q2wsx, T41I, S45T, S45P, S45A, S45Y, S45C, S45F
DDR2:	S768R
EGFR:	G719S, G719C, G719D, G719A, E746_A750delELREA, A763_Y764insFQEA, T790M, L858Q, L858R, L861Q, L861R
ERBB2:	E770_A771insAYVM, V777_G778insGSP
KRAS:	G12V, G12A, G12D, G12C, G12R, G12S, G13V, G13A, G13D, G13C, G13R, G13S, Q61H, Q61L, Q61R, Q61P, Q61E, Q61K
MAP2K1:	Q56P, K57N, D67N
MYD88:	L265P
NOTCH1:	L1600P, L1574P
NRAS:	Q61H, Q61L, Q61R, Q61P, Q61E, Q61K, G13V, G13A, G13D, G13C, G13R, G13S, G12V, G12A, G12D, G12C, G12R, G12S
PIK3CA:	R88Q, E542K, E542Q, E545K, E545Q, Q546K, Q546E, Q546P, Q546R, Q546L, H1047Y, H1047R, H1047L, G1049S, G1049R
PTEN:	R130R, R130G, R130*, R173C, R173H, R233R, R233*, K267fs*9, K267fs*9
SF3B1:	K666N, K666R, K666T, K666Q, R625L, R625C, E622D
TP53:	R306*, R273L, R273H, R273C, R248L, R248P, R248Q, R248W, R248G, G245C, G245R, G245S, R175L, R175H

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In addition, STAMPT targets the kinase domains of several genes that are directly or indirectly targeted by clinically available kinase inhibitors. [Note: identification of a mutation in one or more of these genes does not guarantee activity of the drug in a given indication; this list is intended to give examples of potential utility of this information]:

Gene/Kinase	Tumor Type (Cancer Gene Census)	Kinase Inhibitor
ABL1	CML, ALL, T-ALL	Bosutinib; Imatinib; Ponatinib; Dasatinib; Regorafenib; Nilotinib; Crizotinib;
BRAF	melanoma, colorectal, papillary thyroid, borderline ovarian, NSCLC, cholangiocarcinoma, pilocytic astrocytoma	Sorafenib; Regorafenib; Dabrafenib; Vemurafenib;
DDR2		Regorafenib;
EGFR	NSCLC, glioma	Erlotinib; Afatinib; Lapatinib; Vandetanib; Gefitinib;
ERBB2	breast, ovarian, other tumor types, NSCLC, gastric	Afatinib; Lapatinib;
ERBB4		Afatinib;
FGFR1	MPD, NHL	Ponatinib; Regorafenib; Pazopanib;
FGFR2	gastric, NSCLC, endometrial	Ponatinib; Regorafenib;
FGFR3	bladder, MM, T-cell lymphoma	Ponatinib; Pazopanib;
KIT	GIST, AML, TGCT, mastocytosis, mucosal melanoma	Cabozantinib; Imatinib; Ponatinib; Sorafenib; Dasatinib; Regorafenib; Sunitinib; Nilotinib; Pazopanib;
MAP2K1	NSCLC, melanoma, colorectal	Trametinib;
MAP2K2	NSCLC, melanoma	Trametinib;
MET	papillary renal, head-neck squamous cell	Crizotinib; Cabozantinib;
PDGFRA	GIST, idiopathic hypereosinophilic syndrome, pediatric glioblastoma	Regorafenib; Sunitinib; Pazopanib;
PDGFRB	MPD, AML, CMML, CML	Sorafenib; Dasatinib; Regorafenib; Sunitinib; Pazopanib; Ponatinib; Nilotinib;
RAF1	pilocytic astrocytoma	Sorafenib; Dabrafenib; Vemurafenib; Regorafenib;
RET	medullary thyroid, papillary thyroid, pheochromocytoma, NSCLC	Vandetanib; Cabozantinib; Ponatinib; Sorafenib; Regorafenib; Sunitinib;

References:

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