Department of Pathology
Molecular Genetics Pathology Laboratory

Stanford Solid Tumor Actionable Mutation Panel (STAMP)

Genes entirely or partly covered:

ABCC9	FBXW7	MECOM	S100A7
ABL1	FGD1	MET	SAMD7
ADAMTS12	FGF3	MKRN3	SEMA6C
AKT1	FGFR1	MPHOSPH8	SERPINB3
ALK	FGFR2	MRGPRD	SETBP1
AMOT	FOXP1	MS4A3	SF3B1
ASB18	FRYL	MYC	SGCZ
ASTN1	GABRA2	MYCL	SKP2
ASTN2	GABRA6	MYCN	SLC14A2
ATP11B	GRID1	MYD88	SLC1A3
BCL2	GRIK3	MYEOV	SLC2A2
BRAF	GRM8	MYNN	SLC45A2
BRINP3	HAPLN1	NAV3	SLC6A19
C14orf177	HAX1	NCAM1	SLC8A1
C6orf118	HCN1	NETO1	SLIT3
C9	HDAC9	NFE2L2	SLITRK1
CA10	HRAS	NKD2	SMAD4
CCND1	HTR1A	NLRP3	SOX2
CD226	HTR3E	NOTCH1	SPTA1
CDH12	IFLTD1	NRAS	ST6GAL2
CDH18	IGFL3	NT5C1A	STK11
CDH7	IL6R	NTM	SYT4
CDH9	IQCJ	NUP155	TARS2
CDKN2A	KCND2	PABPC4	TERT
CHRM2	KCNJ3	PACRG	TG
CLDN11	KCNT2	PAK7	TGFBR3
CNTNAP2	KDR	PARK2	TNN
CNTNAP5	KEAP1	PDGFRA	TNR
COL22A1	KIT	PDGFRB	TP53
CSMD1	KLHL1	PDYN	TP63
CSMD3	KLHL6	PDZRN3	TPCN2
CTNNA2	KRAS	PHC3	TPTE2
CTNNB1	LANCL2	PIK3CA	TRIM58

CTSS	LELP1	PKLR	TRIP13
CUL3	LPAR6	POLDIP2	TRPC5
DCAF12L1	LPL	POM121L12	TUBA3C
DCAF12L2	LPPR4	PSPC1	U2AF1
DCAF4L2	LRFN5	PTEN	UGT3A2
DCC	LRP1B	PTPRD	VSTM2A
DDR2	LRRIQ3	RAF1	WDR7
DDX1	LRRTM1	RB1	WHSC1L1
DENND4B	LRRTM4	REG3A	ZAN
DMD	MACF1	RET	ZFY
EGFLAM	MAP2K1	RFX5	ZIC1
EGFR	MAP2K2	RIT2	ZIC4
ERBB2	MARCH1	RLF	ZMYM5
ERBB4	MCCC1	ROBO1	ZNF236
FAM135B	MCF2L2	ROS1	ZNF521
FBN2	MCL1	RPS4Y1	ZNF713
FBXL7	MDM2		

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

In addition, STAMP 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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