

How to use this page: Each translocation has 2 partner genes. If you know the 5' partner, look in the alphabetically-sorted left columns, if you know the 3' partner look in the right columns. Each gene may have several intron breakpoints; most are covered in our assay. Contact the Molecular Lab for specifics. Remember, this page covers only genes with a targeted therapy, check Custom and Sarcoma panels for other targets.

MDL Actionable Fusion Panel—V1, August 2020

Sorted by **5' gene**

5' GENE	3' GENE
AFAP1	NTRK2
AGK	BRAF
AGTRAP	BRAF
AKAP9	BRAF
ALK	GALNT14
ALK	SCEL
ALK	STK39
ATG7	BRAF
ATIC	ALK
BRAF	AP3B1
BRAF	ATG7
BTBD1	NTRK3
CARS	ALK
CCDC6	RET
CCNY	BRAF
CD74	NRG1
CD74	NTRK1
CD74	ROS1
CLTC	ALK
CLTC	ROS1
DSTYK	BRAF
EGFR VIII VARIANT	
EML4	ALK
EML4	NTRK3
ERC1	RET
ETV6	NTRK3
ETV6	RET
EZR	ROS1
FAM131B	BRAF
FN1	ALK
GOLGA5	RET
GOPC	ROS1
GTF2IRD1	ALK
HIP1	ALK
HOOK3	RET
IRF2BP2	NTRK1
KCNQ5	ALK
KIAA1549	BRAF
KIF5B	ALK
KIF5B	RET
KTN1	RET
LMNA	ALK
LMNA	NTRK1
LRIG3	ROS1
MET	TFG
MET ex 14 SKIPPING	
MPRIP	NTRK1

MYB	QKI
NACC2	NTRK2
NCOA4	RET
NTRK3	ETV6
PAN3	NTRK2
PAX8	PPARG
PCM1	RET
PPFIBP1	ALK
PRKAR1A	ALK
PRKAR1A	RET
PTPRZ1	MET
QKI	NTRK2
RET	GOLGA5
RNF130	BRAF
SDC4	ROS1
SEC31A	ALK
SLC34A2	ROS1
SLC45A3	BRAF
SND1	BRAF
SQSTM1	NTRK1
SQSTM1	NTRK2
ST7	MET
STRN	ALK
TAX1BP1	BRAF
TFG	ALK
TFG	MET
TFG	NTRK1
TFG	ROS1
TPM1	ALK
TPM3	NTRK1
TPM3	ROS1
TPM3/4	ALK
TPM4	ALK
TPR	ALK
TPR	NTRK1
TRIM24	NTRK2
TRIM27	RET
TRIM33	RET
VCL	ALK
YWHAE	ROS1

For these genes, all translocations are detected by expression imbalance: **ALK, BRAF, FGFR1, FGFR2, FGFR3, NTRK2, NTRK3, RET, ROS1.**

Sorted by **3' gene**

5' GENE	3' GENE
ATIC	ALK
CARS	ALK
CLTC	ALK
EML4	ALK
FN1	ALK
GTF2IRD1	ALK
HIP1	ALK
KCNQ5	ALK
KIF5B	ALK
LMNA	ALK
PPFIBP1	ALK
PRKAR1A	ALK
SEC31A	ALK
STRN	ALK
TFG	ALK
TPM1	ALK
TPM3/4	ALK
TPM4	ALK
TPR	ALK
VCL	ALK
BRAF	AP3B1
BRAF	ATG7
AGK	BRAF
AGTRAP	BRAF
AKAP9	BRAF
ATG7	BRAF
CCNY	BRAF
DSTYK	BRAF
FAM131B	BRAF
KIAA1549	BRAF
RNF130	BRAF
SLC45A3	BRAF
SND1	BRAF
TAX1BP1	BRAF
NTRK3	ETV6
ALK	GALNT14
RET	GOLGA5
PTPRZ1	MET
ST7	MET
TFG	MET
CD74	NRG1
CD74	NTRK1
IRF2BP2	NTRK1
LMNA	NTRK1
MPRIP	NTRK1
SQSTM1	NTRK1
TFG	NTRK1
TPM3	NTRK1
TPR	NTRK1
AFAP1	NTRK2
NACC2	NTRK2

PAN3	NTRK2
QKI	NTRK2
SQSTM1	NTRK2
TRIM24	NTRK2
BTBD1	NTRK3
EML4	NTRK3
ETV6	NTRK3
PAX8	PPARG
MYB	QKI
CCDC6	RET
ERC1	RET
ETV6	RET
GOLGA5	RET
HOOK3	RET
KIF5B	RET
KTN1	RET
NCOA4	RET
PCM1	RET
PRKAR1A	RET
TRIM33	RET
TRIM27	RET
TRIM33	RET
CD74	ROS1
CLTC	ROS1
EZR	ROS1
GOPC	ROS1
LRIG3	ROS1
SDC4	ROS1
SLC34A2	ROS1
TFG	ROS1
TPM3	ROS1
YWHAE	ROS1
ALK	SCEL
ALK	STK39
MET	TFG