

**Product Name:**

o RNA Fusion Panel 1 FFPE Control	Part No.: RF161-001
o RNA Fusion Panel 2 FFPE Control	Part No.: RF161-002
o RNA Fusion Panel 3 FFPE Control	Part No.: RF161-003
o RNA Fusion Panel 4 FFPE Control	Part No.: RF161-004
o RNA Fusion Panel 5 FFPE Control	Part No.: RF161-005
o RNA Fusion Panel 8 FFPE Control	Part No.: RF161-008
o Multiplexed RNA Fusion FFPE Control	Part No.: RF161-099

**Description**

RNA Fusion Panels are full-process reference material formulated for use with molecular assays that detect RNA transcripts from fusions of a wide range of cancer genes. Each part number contains multiple RNA fusion sequences (listed in Table 1) with equivalent number of copies in mixture of cultured human cells embedded in one 10µm FFPE curl per vial. The Multiplexed RNA Fusion Control contains all members in Panel 1 to 5 and 8.

**Instruction for use**

Allow the product vial to come to room temperature before use. RNA Fusion Panel samples must go through an extraction process the same way as the patient sample.

**Expected Results**

Please refer to the product Certificate of Analysis for accurate information. Generally, in each 10µm FFPE curl, there should be at least a thousand copy of each fusion member in a panel and at least a thousand nanogram of total cellular RNA.

**Storage**

For maximum stability of the RNAs, please store at -20°C or lower. Shelf life when stored under these conditions is two year from date of manufacture.

**Quality Control**

1. The quantity of total RNA is determined with DeNovix RNA Assay.
2. The copy number of fusion RNA is determined with rt-qPCR.

**FOR IN VITRO RESEARCH USE ONLY**

Table 1.

ID	5' Gene Breakpoint (GRCh37/Hg19)	3' Gene Breakpoint (GRCh37/Hg19)
<b>Panel1</b>		
EML4-ALK	chr2:42522656	chr2:29446394
ETV6-NTRK3	chr12:12022903	chr15:88483984
CD74-ROS1	chr5:149784243	chr6:117645578
KIF5B-RET	chr10:32311776	chr10:43612032
SS18-SSX1	chr18:23612363	chrX:48123217 (chrX_jh806590_fix:503211)
COL1A1-PDGFB	chr17:48268178	chr22:39631879
LMNA-NTRK1	chr1:156100564	chr1:156844363
<b>Panel2</b>		
TPM3-NTRK1	chr1:154142876	chr1:156844363
FGFR3-TACC3	chr4:1808661	chr4:1739325
SLC34A2-ROS1	chr4:25665952	chr6:117650609
CCDC6-RET	chr10:61665880	chr10:43612032
TMPRSS2-ERG	chr21:42870046	chr21:39817544
PAX8-PPARG	chr2:113984732	chr3:12421203
FGFR2-PPLN1	chr10:123243212	chr12:42745687
ID	5' Gene Breakpoint (GRCh37/Hg19)	3' Gene Breakpoint (GRCh37/Hg19)
<b>Panel3</b>		
EML4-ALK v2	chr2:42552694	chr2:29446394
FGFR2-AHCYL1	chr10:123243212	chr1:110551656
PPFIBP1-ROS1	chr12:27809663	chr6:117642557
PRKAR1A-RET	chr17:66522053	chr10:43612032
SS18-SSX2	chr18:23612363	chrX:52786931 (chrX_jh806587_fix:2470969)
TMPRSS2-ETV1	chr21:42870046	chr7:14017105
SLC45A3-ERG	chr1:205649522	chr21:39817544
<b>Panel4</b>		
EML4-ALK v3	chr2:42491871	chr2:29446394
FGFR2-BICC	chr10:123243212	chr10:60461834
EZR1-ROS1	chr6:159191796	chr6:117645578
NCOA4-RET	chr10:51582939 (chr10_jh591181_fix:283998)	chr10:43612032
PRCC-TFE3	chr1:156738031	chrX:48895967 (chrX_jh806590_fix:1277871)
MET ex14 Skipping	chr7:116411708	chr7:116414935
EWSR1-FLI1	chr22:29683123	chr11:128651853
<b>Panel5</b>		
NPM1-ALK	chr5:170818803	chr2: 29446394
TFG-NTRK1	chr3:100451516	chr1:156844363
SLC45A3-BRAF	chr1:205649522	chr7:140494267
EWSR1-ATF1	chr22:29684775	chr12:51203239
EGFR-SEPT14	chr7:55268106	chr7:55863785
EGFR Variant III	chr7:55087058	chr7:55223523
QKI-NTRK2	Chr6:163984751	chr9:87482158 (chr10_jh591183_fix:122632)
<b>Panel8</b>		
FGFR3-TACC3v1	chr4:1808661	chr4:1741429
FGFR3-TACC3v3	chr4:1808661	chr4:1739325
FGFR3-BAIAP2L1	chr4:1808661	chr7:97991744
FGFR2-BICC1	chr10:123243212	chr10:60461834
FGFR2-CASP7	chr10:123243212	chr10:115457253