

NTRK1

OncoPrint Childhood Cancer Research Assay

Cancer in children and young adults is different

The Ion Torrent™ OncoPrint™ Childhood Cancer Research Assay is an NGS-based tool, designed for comprehensive genomic profiling of cancers affecting children and young adults including sarcomas and leukemias. Since the driving genetic aberrations of these malignancies are different than those affecting adults, a specific and comprehensive panel is needed to advance research. Our panel is targeted to support the future of precision medicine in pediatric oncology.

Comprehensive panel design

- Compiled by leading researchers and pediatric oncologists
- 203 unique genes, including thousands of fusion drivers and comprehensive mutation coverage

Covers relevant targets for a broad range of malignancies affecting children and adults

- Childhood leukemias
- Lymphomas
- Sarcomas
- Central nervous system and brain neoplasms

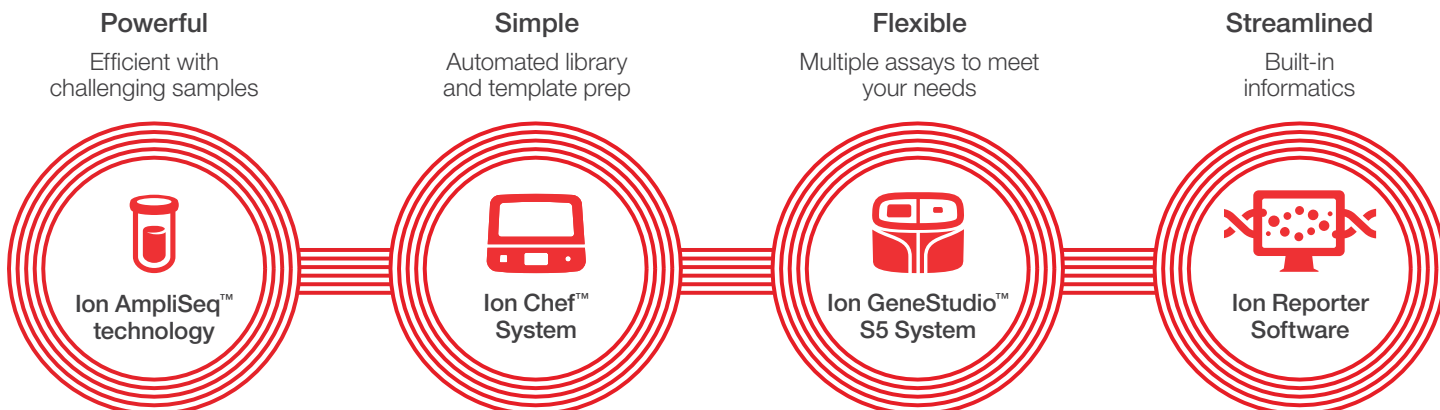
Optimized workflow for fast results

- End-to-end solution including integrated informatics
- From sample to report in 2–3 days, depending on sample type
- Verified for multiple sample types, including blood, bone marrow, fresh/frozen tissue, and formalin-fixed, paraffin-embedded (FFPE) tissue

“The OncoPrint Childhood Cancer Research Assay is designed for multiple forms of childhood cancer. Of particular importance, it assays both RNA and DNA, which allows one to detect both gene fusions and DNA mutations, both of which are important for research.”

Timothy Triche, MD, PhD
Founding Director of the Children’s Hospital
Los Angeles Center for Personalized Medicine

Oncomine Childhood Cancer Research Assay workflow



The end-to-end workflow is optimized for childhood cancer research, enabling researchers to analyze a variety of sample types and go from sample to result in 2–3 days. Up to 8 samples can be multiplexed on a single chip, allowing for flexibility in batch size.

Table 1. The content has been developed with leading scientists and pediatric oncologists. It comprises a large translocation/fusion panel for 97 genes with more than 1,700 fusion isoform variants, which more commonly occur in childhood sarcomas and leukemias. It also includes DNA panel for 82 targets with comprehensive coverage of relevant mutations, 44 targets with full exon coverage (specifically tumor suppressor genes), and 24 CNV targets.

Comprehensive mutation coverage (82)					CNV (24)		Full exon coverage (44)			Fusion and expression (88)					Gene expression (9)
<i>ABL1</i>	<i>CSF1R</i>	<i>FLT3</i>	<i>KRAS</i>	<i>PIK3R1</i>	<i>ALK</i>	<i>FGFR1</i>	<i>APC</i>	<i>GATA1</i>	<i>RB1</i>	<i>ABL1</i>	<i>FGFR2</i>	<i>MECOM</i>	<i>NTRK2</i>	<i>ROS1</i>	<i>BCL2</i>
<i>ABL2</i>	<i>CSF3R</i>	<i>GATA2</i>	<i>MAP2K1</i>	<i>PPM1D</i>	<i>BRAF</i>	<i>FGFR2</i>	<i>ARID1A</i>	<i>GATA3</i>	<i>RUNX1</i>	<i>ABL2</i>	<i>FGFR2</i>	<i>MEF2B</i>	<i>NTRK3</i>	<i>RUNX1</i>	<i>BCL6</i>
<i>ALK</i>	<i>CTNNB1</i>	<i>GNAQ</i>	<i>MAP2K2</i>	<i>PTPN11</i>	<i>CCND1</i>	<i>FGFR3</i>	<i>ARID1B</i>	<i>GNA13</i>	<i>SMARCA4</i>	<i>ALK</i>	<i>FGFR3</i>	<i>MET</i>	<i>NUP214</i>	<i>SS18</i>	<i>FGFR1</i>
<i>ACVR1</i>	<i>DAXX</i>	<i>H3F3A</i>	<i>MET</i>	<i>RAF1</i>	<i>CDK4</i>	<i>FGFR4</i>	<i>ATRX</i>	<i>ID3</i>	<i>SMARCB1</i>	<i>BCL11B</i>	<i>FLT3</i>	<i>MKL1</i>	<i>NUP98</i>	<i>SSBP2</i>	<i>FGFR4</i>
<i>AKT1</i>	<i>DNMT3A</i>	<i>HDAC9</i>	<i>MPL</i>	<i>RET</i>	<i>CDK4</i>	<i>GLI1</i>	<i>CDKN2A</i>	<i>IKZF1</i>	<i>SOCS2</i>	<i>BCOR</i>	<i>FOSB</i>	<i>MLLT10</i>	<i>NUTM1</i>	<i>STAG2</i>	<i>IGF1R</i>
<i>ASXL1</i>	<i>EGFR</i>	<i>HIST1H3B</i>	<i>MSH6</i>	<i>RHOA</i>	<i>CDK4</i>	<i>GLI2</i>	<i>CDKN2B</i>	<i>KDM6A</i>	<i>SUFU</i>	<i>BCR</i>	<i>FUS</i>	<i>MN1</i>	<i>NUTM2B</i>	<i>STAT6</i>	<i>MET</i>
<i>ASXL2</i>	<i>EP300</i>	<i>HRAS</i>	<i>MTOR</i>	<i>SETBP1</i>	<i>CDK4</i>	<i>IGF1R</i>	<i>CEBPA</i>	<i>KMT2D</i>	<i>SUZ12</i>	<i>BRAF</i>	<i>GLI1</i>	<i>MYB</i>	<i>PAX3</i>	<i>TAL1</i>	<i>MYCN</i>
<i>BRAF</i>	<i>ERBB2</i>	<i>IDH1</i>	<i>NCOR2</i>	<i>SETD2</i>	<i>CDK4</i>	<i>KIT</i>	<i>CHD7</i>	<i>MYOD1</i>	<i>TCF3</i>	<i>CAMTA1</i>	<i>GLIS2</i>	<i>MYBL1</i>	<i>PAX5</i>	<i>TCF3</i>	<i>MYC</i>
<i>CALR</i>	<i>ERBB3</i>	<i>IDH2</i>	<i>NOTCH1</i>	<i>SH2B3</i>	<i>CDK4</i>	<i>KRAS</i>	<i>CRLF1</i>	<i>NF1</i>	<i>TET2</i>	<i>CCND1</i>	<i>HMGA2</i>	<i>MYH11</i>	<i>PAX7</i>	<i>TFE3</i>	<i>TOP2A</i>
<i>CBL</i>	<i>ERBB4</i>	<i>IL7R</i>	<i>NPM1</i>	<i>SH2D1A</i>	<i>CDK6</i>	<i>MDM2</i>	<i>DDX3X</i>	<i>NF2</i>	<i>TP53</i>	<i>CIC</i>	<i>JAK2</i>	<i>MYH9</i>	<i>PDGFB</i>	<i>TP63</i>	
<i>CCND3</i>	<i>ESR1</i>	<i>JAK1</i>	<i>NRAS</i>	<i>SMO</i>	<i>EGFR</i>	<i>MDM4</i>	<i>DICER1</i>	<i>PHF6</i>	<i>TSC1</i>	<i>CREBBP</i>	<i>KAT6A</i>	<i>NCOA2</i>	<i>PDGFRA</i>	<i>TSLP</i>	
<i>CCR5</i>	<i>EZH2</i>	<i>JAK2</i>	<i>NT5C2</i>	<i>STAT3</i>	<i>EGFR</i>	<i>MET</i>	<i>EBF1</i>	<i>PRPS1</i>	<i>TSC2</i>	<i>CRLF2</i>	<i>KMT2A</i>	<i>NCOR1</i>	<i>PDGFRB</i>	<i>TSPAN4</i>	
<i>CDK4</i>	<i>FASLG</i>	<i>JAK3</i>	<i>PAX5</i>	<i>STAT5B</i>	<i>ERBB2</i>	<i>MYC</i>	<i>EED</i>	<i>PTCH1</i>	<i>WHSC1</i>	<i>CSF1R</i>	<i>KMT2B</i>	<i>NOTCH1</i>	<i>PLAG1</i>	<i>UBTF</i>	
<i>CIC</i>	<i>FBXW7</i>	<i>KDM4C</i>	<i>PDGFRA</i>	<i>TERT</i>	<i>ERBB3</i>	<i>MYCN</i>	<i>FAS</i>	<i>PTEN</i>	<i>WT1</i>	<i>DUSP22</i>	<i>KMT2C</i>	<i>NOTCH2</i>	<i>RAF1</i>	<i>USP6</i>	
<i>CREBBP</i>	<i>FGFR2</i>	<i>KDR</i>	<i>PDGFRB</i>	<i>TPMT</i>	<i>ERBB3</i>	<i>PDGFRA</i>			<i>XIAP</i>	<i>EGFR</i>	<i>KMT2D</i>	<i>NOTCH4</i>	<i>RANBP17</i>	<i>WHSC1</i>	
<i>CRLF2</i>	<i>FGFR3</i>	<i>KIT</i>	<i>PIK3CA</i>	<i>USP7</i>		<i>PIK3CA</i>				<i>ETV6</i>	<i>LMO2</i>	<i>NPM1</i>	<i>RECK</i>	<i>YAP1</i>	
			<i>ZMYM3</i>							<i>EWSR1</i>	<i>MAML2</i>	<i>NR4A3</i>	<i>RELA</i>	<i>ZMYND11</i>	
										<i>FGFR1</i>	<i>MAN2B1</i>	<i>NTRK1</i>	<i>RET</i>	<i>ZNF384</i>	

Ordering information

Product	Description	Cat. No.
Oncomine Childhood Cancer Research Assay	Chef Ready Library	A36486
	Manual Library	A36485

Get more information at
thermofisher.com/oncomine-childhood