

# Archer™ FUSIONPlex™ Heme Solutions

## FUSIONPlex Pan-Heme v2 and FUSIONPlex Heme v3

Expanded coverage is enabled by one proven chemistry, one purpose-built software platform, and one streamlined workflow.

**Are you struggling to keep up with the ever evolving world of hematologic cancer research?** As new fusions, splice variants, resistance mutations, and expression markers are constantly discovered and added to next-generation sequencing (NGS) guidelines, it's challenging for any lab to stay current. Archer™ FUSIONPlex™ Heme Solutions from Integrated DNA Technologies (IDT) is designed to help you keep pace with these advances by delivering with discovery without disrupting your workflows.

**Archer FUSIONPlex Pan-Heme v2 and FUSIONPlex Heme v3** are RNA-based NGS solutions built on Anchored Multiplex PCR (AMP™) chemistry paired with purpose-built analytics to enable analytically sensitive identification of known and novel gene fusions, splice variants, exon-skipping events, SNVs/Indels, and gene expression from a wide range of sample types.

Built on the same trusted foundation, both solutions can be customized as new biomarkers emerge or as your research narrows to a specific disease entity, without impact to assay performance or NGS workflow.

Archer FUSIONPlex Heme Solutions were co-developed in collaboration with Beckman Coulter Life Sciences to be automation-ready on the i3 platform, supporting streamlined, automated library preparation for labs looking to scale.

All solutions are supported by Archer Analysis, our secondary analysis platform designed to simplify data interpretation and accelerate actionable insight generation.

**Archer FUSIONPlex Heme solutions offer comprehensive characterization of fusions, splicing, exon-skipping, SNVs, indels, and relative expression from a wide range of sample types, so you can make faster, more confident decisions without running multiple separate assays.**



### Comprehensive

Identify fusions, splicing, exon-skipping, SNVs, indels, expression, levels



### Flexible

Add custom content to our NGS panels for state-of-the-art assays



### Fast results

1.5-day library preparation with 3.5 hours hands-on-time



### AMP chemistry

Proven chemistry for dependable NGS libraries



### Archer analysis

Powerful analysis platform for actionable insights

## Discover heme malignancy insights with these two solutions.

Each offering provides a scalable Archer heme research solutions sized for your needs:

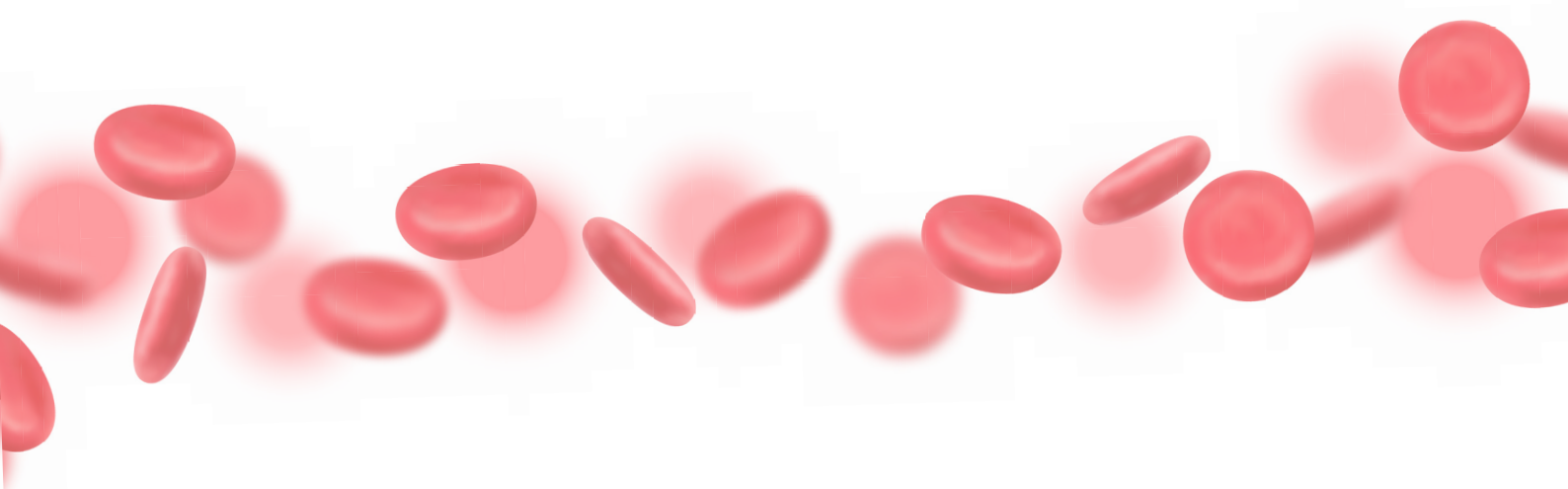
- **Pan-Heme v2:** delivers broad coverage across **218 genes** associated with hematologic malignancies, spanning leukemias, lymphomas, and other myeloid and lymphoid disorders
- **Heme v3:** offers more focused coverage weighted toward common leukemia-associated targets in **121 genes**, while retaining key markers relevant to other heme diseases

## FUSIONPlex Pan-Heme v2 versus Heme v3

FUSIONPlex Heme v3									FUSIONPlex Pan-Heme v2						
ABL1	CCND3	CTLA4	ID4	KMT2A	NFKB2	PDGFRB	SF3B1	ZNF384	AICDA	CDC25A	EXOC2	KRAS	NME1	PYCR1	TLX1
ABL2	CD274	DDX41	IDH1	LYN	NOTCH1	PICALM	SH2B3		AKT3	CDKN2B	EZH2	LIMD1	NOTCH2	RAB29	TLX3
ALK	CD28	DEK	IDH2	MALT1	NPM1	PLCG2	STAT3		ASB13	CREB3L2	FAM216A	LMO1	NRAS	RAG1	TNFRSF13B
BCL11B	CDK6	DUSP22	IKZF1	MECOM	NTRK1	PML	STIL		ASXL1	CSF3R	FBXW7	LMO2	NT5C2	RAG2	TNFSF4
BCL2	CDKN2A	EBF1	IKZF2	MEF2C	NTRK2	PRDM16	TAL1		BATF3	CYB5R2	FUT8	LRMP	NUDT15	RANBP1	TPMT
BCL3	CEBPA	EIF4A1	IKZF3	MEF2D	NTRK3	PTK2B	TCF3		BAX	DCK	GATA1	LYL1	PAICS	RHOA	U2AF1
BCL6	CEBPD	EPOR	IL2RB	MEN1	NUP214	RARA	TFG		BCL2A1	DDX4	GATA2	LZTS1	PBX1	S1PR2	WT1
BCR	CEBPE	ERG	IRF4	MKL1	NUP98	RBM15	TP53		BLNK	DENND3	GNAS	MAL	PHF6	SERPINA9	
BIRC3	CEBPG	ETV6	IRF8	MLF1	NUTM1	RET	TP63		BMF	DLEU1	HOXA10	MAML3	PIM1	SH3BP5	
BRAF	CHD1	FGFR1	JAK1	MLLT10	P2RY8	ROS1	TSLP		BMP7	DNM2	HOXA9	MME	PIM2	SLC29A1	
BTK	CHIC2	FGFR2	JAK2	MLLT4	PAG1	RUNX1	TYK2		CALR	DNMT3A	IL16	MPL	PLCG1	SOX11	
CARD11	CIITA	FGFR3	JAK3	MUC1	PAX5	RUNX1T1	UBA1		CBL	DNMT3B	IL7R	MYBL1	PPAT	SRSF2	
CBFB	CREBBP	FLT3	KAT6A	MYC	PDCD1	SEMA6A	UBTF		CCDC50	DNTT	ITPKB	MYD88	PRKAR2B	STAT5B	
CCND1	CRLF2	FOXP1	KIT	MYH11	2	SETBP1	XPO1		CD44	E2F2	KDM6A	NEK6	PTPN1	STAT6	
CCND2	CSF1R	GLIS2	KLF2	NF1	PDGFRA	SETD2	ZCCHC7		CD79B	ENTPD1	KIAA0101	NFKB1	PTPN11	STRBP	

Figure 1. Genes in FUSIONPlex Pan-Heme v2 and Heme v3

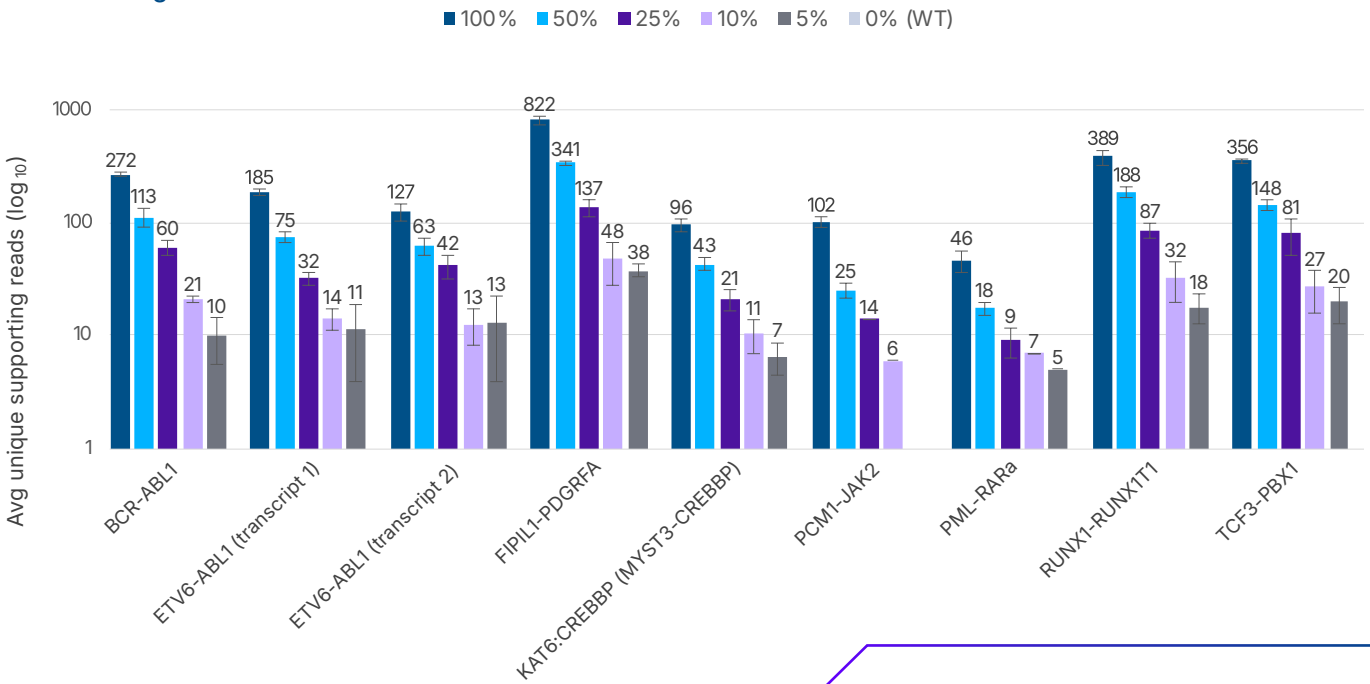
Learn more [itdna.com/blood-cancer-research](https://itdna.com/blood-cancer-research)



## Performance data

FUSIONPlex Heme Solutions are designed to deliver dependable performance across the variant types that are important in hematologic malignancy research. The solutions provide the sensitivity required to identify fusions in samples with varying percentages of tumor cellularity (**Figure 2**), with strong read support demonstrated across representative fusion types from cell line inputs (**Figure 3**). In parallel, reliable SNV and indel identification from total nucleic acid (TNA) input supports integrated variant and fusion analysis within a single, streamlined workflow, helping laboratories generate comprehensive, actionable insights without added complexity—accelerating discoveries from data to decision. (**Figure 4**).

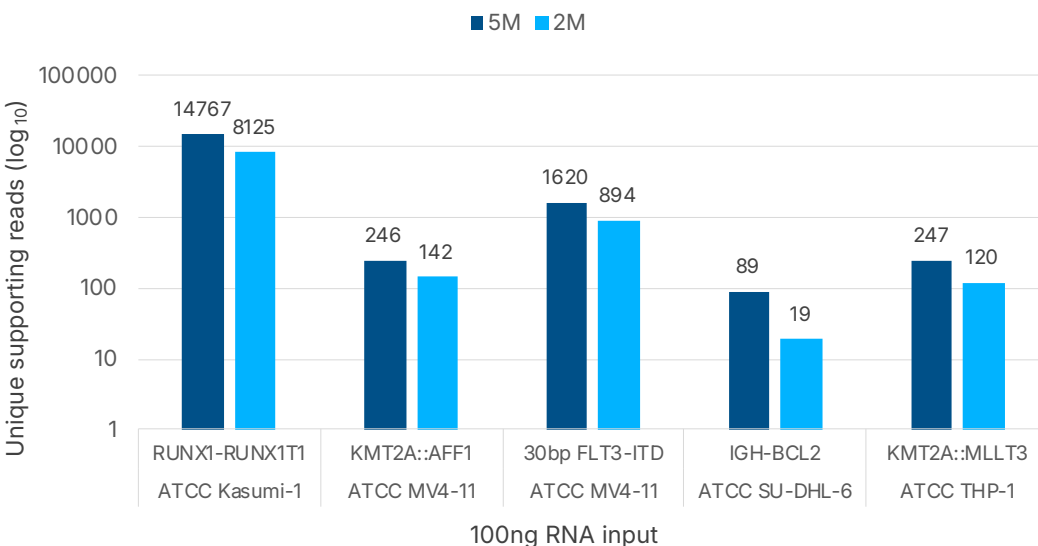
### Fusion calling



Input	Percent expected fusions called
100% myeloid fusion RNA	100.0%
50% myeloid fusion RNA	100.0%
25% myeloid fusion RNA	96.3%
10% myeloid fusion RNA	85.2%
5% myeloid fusion RNA	77.8%

**Figure 2. Over 85% of expected fusions identified in 10% of 100ng fusion positive material, demonstrating the reliability of FUSIONPlex™ Heme Solutions in identifying fusions from samples with low tumor cellularity.** Reference materials used: Fusion positive Input: Seraseq® Myeloid Fusion RNA Mix (0710-0407), Background: Seraseq® WT TNA (0710-1580), 100ng input mass per library, n = 3 per input, sequenced to 5 million reads per sample.

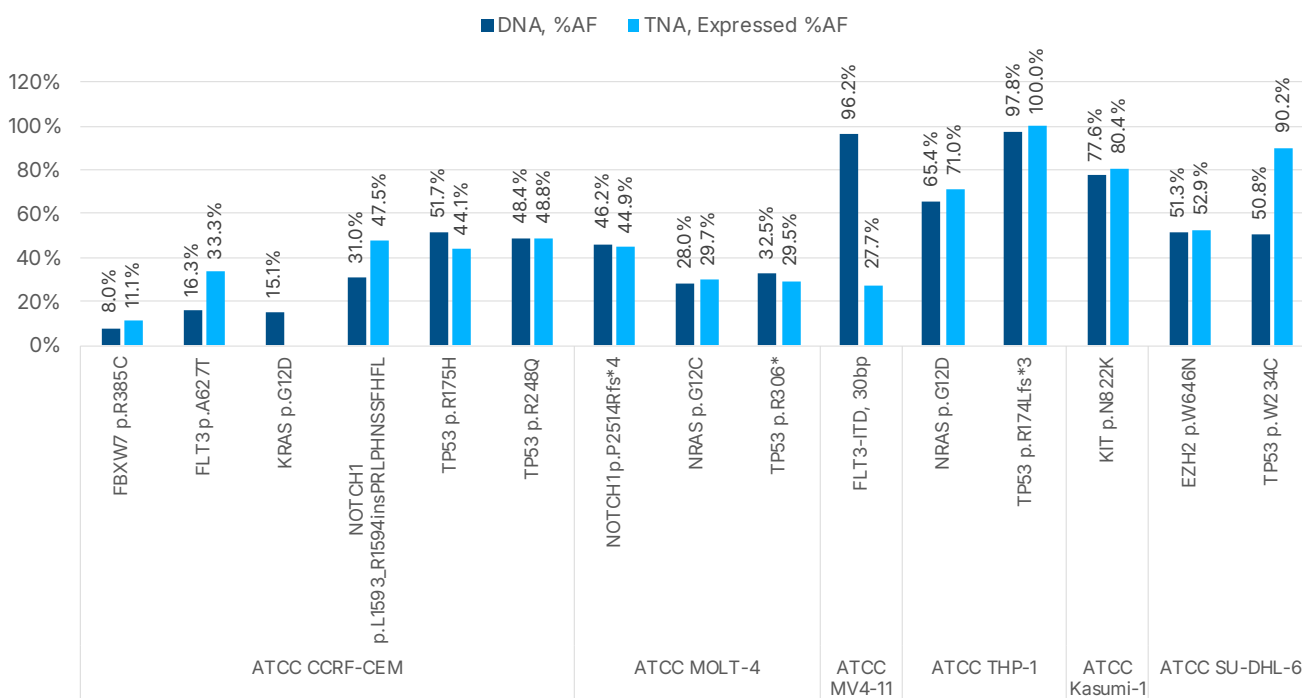
### Fusion Identification Across Representative Cell Lines / Fusion Types



**Figure 3. Strong fusion signal recovery is observed across multiple fusion types and cell line models, even at low sequencing depth, highlighting the solution's ability to identify diverse rearrangement events.**

**Figure 4. 93% concordant identification of SNVs and indels is demonstrated using total nucleic acid (TNA) input, with observed allele frequencies (AF) aligning between DNA and expressed RNA, enabling integrated variant and expression analysis from a single workflow.**

SNV/Indel calling using TNA input



Comprehensive heme solutions with customization

FUSIONPlex Pan-Heme v2 can be used as-is, paired with other Archer research panels, or customized to fit your unique research needs. For a comprehensive genomic profiling solution, combine FUSIONPlex Pan-Heme v2 with the DNA-based VARIANTPlex™ Myeloid v2 solution or combine with IMMUNOVERse™ BCR for immune profiling.

Product name	Genes or target regions	Recommended reads	Product number*
FUSIONPlex Pan-Heme v2 Panel	218	5 million	10031718
FUSIONPlex Heme v3 Panel	121	3.5 million	10031714
VARIANTPlex Myeloid v2 panel and FUSIONPlex Pan-Heme v2 Panel	309	6 million	10029060 & 10031718
IMMUNOVERse BCR Panel	BCR heavy (IGH) and light (kappa/lambda) chains	250K to 10M	DB0221

\* Product numbers listed are for 24 reaction high throughput reagents, except DB0221 which is paired with lyophilized reagents.



Don't see your desired targets? Work with our trusted expert designers on the ideal panel without compromising on performance. Accelerate your discoveries scan the QR code or visit [idtdna.com/AssayMarketplace](http://idtdna.com/AssayMarketplace)



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