

# Tapestri Single-Cell DNA MPN Panel

Advance your understanding of the genetic heterogeneity underpinning myeloproliferative neoplasms (MPN) by targeting **24 genes with 123 amplicons** for single-cell sequencing. Covering a combination of oncogenes and tumor suppressor genes, this panel is designed to cover some of the most commonly mutated genes associated with MPN.

## Panel Specifications

Metric	Value
Number of genes	24
Number of targets	592
Target type possible	SNVs, Indels, CNVs, LOH
Number of amplicons	123
Coverage	87.2%
Panel size	~23 kb
Amplicon length	175 - 275 bp
Panel uniformity: % of amplicons >0.2x mean	>=80%
Amplicon completeness: % of amplicons in >80% of cells	>=80%
Cell completeness: % of cells with >80% amplicons above 10 reads	>=80%
Verified NGS systems	MiSeq, NextSeq, HiSeq, NovaSeq
Recommended number of reads per sample	~36 M

**Table 1: Panel specifications.**

## 24-GENE MPN PANEL

CSF3R	IDH1	JAK2	ARAF	CHEK2
MPL	KIT	CBL	SETBP1	SF3B1
NRAS	TET2	IDH2	ASXL1	CALR
DNMT3A	EZH2	TP53	RUNX1	NF1
ERBB4	PTPN11	KRAS	U2AF1	

**Table 2: Panel gene targets.**

## Panel Targets

Gene	Exon	Protein-level Variants	cDNA Variants
ARAF	7	D196	
ASXL1	6	N180	
	11	D544; E480; K427; R417	

Gene	Exon	Protein-level Variants	cDNA Variants
ASXL1	12	Q575; Y591; Q592; E602; C605; A627; S689; R693; E705; H706; Q708; R715; A716; L721; E727; C730; Q733; S770; E773; L775; Q780; R786; S795; W796; D799; D800; D810; T822; L823; K825; G826; Q829; S833; T836; L896; H897; S903; Q910; R916; E947; G949; R965; G967; K984; N986; W1037; V1046; R1068; E1102; S1166; N1203; S1250; A1380; G1397; N1455; P1461; K1465; T1498; E1500; G1518	

**Table 3: Panel content. Exon numbers are curated from UCSC Genome Browser by collapsing the exons in the forward strand by start and stop site and then numbering the exons from 5' -> 3' end with the first exon at 5' end representing Exon 1.**

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<https://designer.missionbio.com/catalogpanels/MPN>

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## Panel Targets (cont'd)

Gene	Exon	Protein-level Variants	cDNA Variants
CALR	9	Q365; L367; E371; K374; K385	
	7	R343	
CBL	8	Y371; S376; L380; I383; D390; I393; G397; H398; C401; T402; C404; W408	
	9	C416; P417; F418; R420; D460; R462	
CHEK2	4	N153; R175; R180	
	12	E437; H414	
CSF3R	14	I598; T615; T618	
	17	M696; Q766; Q776; Y779; Q781	
DNMT3A	4	A122	
	7	Q231; T257	
	8	W306; P307; W313; W314; M315; R320; R326	
	9	L344; Q356	
	10	D391; V399	
	11	Y448; K456	
	12	E477	
	13	N516	
	14	E523	
	15	A571; R598	
	16	I634	
	17	R659; T671; Y660	
	20	I780; R792; W795; P799; R803	
	21	R803; L805; S807; T808; Q816; E817; L819; H821; K826	
22	N838		
23	M880; R882; W893		
ERBB4	Intron		c.82+3G>A
EZH2	2	G5; V13; R18; R25	
	3	Q58; W60; R63; R64	
	4	L101	
	5	P132; G135; F145; L149; I150	
	6	F165; R207	
	7	K210; R213; K243	
	8	L252; A255; N263; H279; R288	

Gene	Exon	Protein-level Variants	cDNA Variants
EZH2	9	N322; Q328	
	10	A345; E401	
	11	P431	
	12	S479; E488; P493; K496; R502	
	13	A505; R509	
	14	D516; Q553; C554	
	15	R561; G564; R566; T573; Q612	
	16	V626; W629	
	17	E655; G660; D664; F670; D677	
	18	V679; R684; R690; N693; Y701; V704	
20	Y733; E745		
IDH1	4	R132	
IDH2	4	R140; T146	
JAK2	12	N533; V536; F537; H538; K539; R541; N542; E543; L545; F547	
	14	H606; H608; V617; C618	
KIT	2	G51; D52	
	6	P343	
	8	Y418; D419	
	9	K499	
	11	N564	
	12	P627	
	13	N655; G658; A659; P627; R634; V654; T661	
	17	D816; D816; D820; I798; R796; V825	
KRAS	2	G12	
MPL	10	L498; V501; S505; V507; R514; W515; A519	
NFI	2	N64	
	46	Y2285	
NRAS	2	G12; G13	
	3	A59; Q61; N85	
PTPN11	14	Q557	

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## Panel Targets (cont'd)

Gene	Exon	Protein-level Variants	cDNA Variants
RUNX1	2	R19	
	5	A120; S141; R162; R166; W248	
	6	D198; T178; R201	
	7	Q213; T214; E223; H242; P245; T246; A251; F259; Q262	
	8	R320	
SETBP1	4	H399; P637; E645; E858; D868; S869; G870; I871; T873; D874; D908; R918; R948; P1084; G1105; R1146; S1329; S1330	
	5	G1334	
SF3B1	14	N626; H662; T663; K666	
	15	K700; I704	
TET2	3	Q80; Q108; P133; A211; N275; N281; A304; S354; S358; P411; R544; R550; L615; K623; L651; Q764; Q790; E796; Q803; Q810; R814; Q884; Q886; Q891; Q892; W954; K1038; E1106	
	4	E1144; Y1148	
	5	T1183	
	6	V1213; R1216; P1237; Y1255; T1257; N1260; R1262	
	7	C1271; G1275; F1285; M1293; F1300; D1314	
	8	L1322; E1323; M1333; Y1337	
	9	Y1351; R1359; G1361; T1372; C1378; H1380	
	10	R1465; E1483; K1491; E1492; A1505	
11	E1513; R1516; Q1526; Q1534; Q1540; Q1542; R1572; L1609; Y1618; P1619; Y1631; Q1632; L1658; Q1687; V1718; G1719; G1735; N1746; A1794; H1817; P1857; H1881; M1907; P1962		

Gene	Exon	Protein-level Variants	cDNA Variants
TP53	2	S9; E11; W23	
	4	D3; L4; D9; D10; M40; L43; M44; W91; G108	
	5	C135; Q136; C141; I162; H179	
	6	R196; L204; C207; I211; S213; V216; Y220; E221	
	7	Y234; N239; S240; G244; G245; M246; R248; R249; S261	
	8	C238; L265; G266; V272; R273; C275; C277; P278; R280; R283; E298; S303	
U2AF1	9	L330	
	10	R333; R337; R342; E358; A364	
	11	Q375; F385	
U2AF1	6	Q157	

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