Product Description
SALSA® Threshold & Binning DNA SD057-S02

Version S02
As compared to version S01, plasmid DNA is used instead of synthetic DNA.

Catalogue number
SD057: SALSA Threshold & Binning DNA, 20 reactions

Precautions and warnings
For professional use only. Always consult the most recent product description AND the corresponding probemix product description AND the MLPA General Protocol before use: www.mrcholland.com. Binning DNA is not known to contain any harmful agents.

SALSA Threshold & Binning DNA SD057 differs from the Binning DNA provided with other SALSA MLPA probemixes as next to its binning purposes, SD057 also serves as a threshold sample for mutation calling. **Please read the product description of SALSA MLPA Probemix P520-A2 MPN mix 2 for more information regarding data analysis and result interpretation.**

Safety data sheet
Based on the concentrations present, none of the ingredients are hazardous as defined by the Hazard Communication Standard. **A Safety Data Sheet (SDS) is not required for these products**: none of the preparations contain dangerous substances (as per Regulation (EC) No 1272/2008 [EU-GHS/CLP] and amendments) at concentrations requiring distribution of an SDS (as per Regulation (EC) No 1272/2008 [EU-GHS/CLP] and 1907/2006 [REACH] and amendments). If spills occur, clean with water and follow appropriate site procedures.

General information
The SALSA Threshold & Binning DNA SD057 is a research use only (RUO) reagent to be used in combination with SALSA MLPA probemix P520-A2 MPN mix 2, a SALSA MLPA Reagent Kit and Coffalyser.Net™ analysis software for the processes of linking all probe signals to their identity by use of the probe lengths. SD057 contains the targets of all probes included in the above-listed probemix, including the mutation-specific probe targets *MPL* p.W515L, *MPL* p.W515K, *KIT* p.D816V, *JAK2* p.N542_E543del, *JAK2* p.E543_D544del, *JAK2* p.V617F, *CALR* p.K385fs*47 and *CALR* p.L367fs*46 .

Threshold & Binning DNA SD057 contains an estimated allele burden of 1% for the indicated mutations and also serves as a threshold sample for determining presence or absence of the mutation. Threshold & Binning DNA should NOT be used for quantification of mutation burden. Neither should it be used as a reference sample in the MLPA analysis.

Experimental set up
MLPA reactions for binning and threshold purposes should be performed with 5 µl of Threshold & Binning DNA. SD057 has a concentration of 20 ng/µl and a total of 100 ng should be used per MLPA reaction. Inclusion of one reaction with SALSA Threshold & Binning DNA SD057 in the initial MLPA experiment is essential as it can aid in data binning of the peak pattern when using Coffalyser.Net software. Furthermore, Threshold & Binning DNA should be included in the experiment whenever changes have been applied to the set-up of the capillary electrophoresis device (e.g. when a different polymer type is used). For threshold purposes, it is highly recommended to include three reactions of SD057 in each MLPA experiment as this will facilitate reliable mutation calling.

Data analysis
Coffalyser.Net software should be used for analysis of MLPA experiments. When performing the fragment analysis step in Coffalyser.Net, select SD057 in the *bin smpl* –column. By selecting the SD057 sample as your binning sample, probes will be correctly identified in the peak pattern across all samples. Coffalyser.Net software is freely downloadable at www.mrcholland.com.

Threshold & Binning DNA content

SD057 consists of a mixture of female genomic DNA from healthy individuals and a titrated amount of plasmid DNA that contains partial sequences of the *CALR*, *JAK2*, *KIT* and *MPL* genes. These partial sequences include eight different mutations that will be detected by the mutation-specific probes present in the above-listed probemix. See Table 1 and the corresponding probemix product description for more details on mutation-specific probe targets present. The indicated mutation-specific probes will generate a signal on SD057.

Table 1. Mutation-specific probe targets in Threshold & Binning DNA SD057-S02

Probemix	Gene/Exon	Probe length (nt)	Probe ID	Probemix version	Details
P520	*MPL* exon 10	186	S1048-SP0405-L29871	A2	p.W515L; c.1544G>T
	MPL exon 10	181	S1048-SP0405-L29870	A2	p.W515K; c.1543_1544TG>AA
	KIT exon 17	200	17722-SP0542-L23707	A2	p.D816V; c.2447A>T
	JAK2 exon 12	167	16924-L21237	A2	p.N542_E543del; c.1624_ 1629delAATGAA
	JAK2 exon 12	172	16924-L21238	A2	p.E543_D544del; c.1627_1632delGAAGAT
	JAK2 exon 14	240	13190-L21572	A2	p.V617F; c.1849G>T
	CALR exon 9	130	S1001-L26517	A2	p.K385fs*47; c.1154_1155insTTGTC
	CALR exon 9	124	S0999-L26702	A2	p.L367fs*46; c.1092_1143del52

Note: Please consult the corresponding probemix product description for more information about result interpretation, exon numbering, mutation nomenclature and gene transcripts used.

More information: www.mrcholland.com; www.mrcholland.eu

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Implemented changes in the product description

Version S02-04 – 26 May 2025 (03)
- The name of SD057 has been changed to Threshold & Binning DNA throughout the product description.

Version S02-03 – 23 March 2023 (03)
- Product description completely rewritten and adapted to a new template.
- Recommendation to include three reactions of SD057 in each MLPA experiment added to the Experimental set up section.
- Remarks below Table 1 about the JAK2 mutation-specific probes replaced by a general note to consult the probemix product description for more information about result interpretation.

Version S02-02 – 12 March 2021 (15)
- Lengths of probes in Table 1 adjusted.
- Various minor textual and layout changes.