

Product Description

SALSA® Artificial Duplication DNA SD024-S01

Version S01

Catalogue number

- **SD024:** SALSA Artificial Duplication 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. Artificial Duplication DNA is not known to contain any harmful agents.

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 Artificial Duplication DNA SD024 is a research use only (RUO) reagent to be used in combination with SALSA MLPA probemixes P002-D1 BRCA1, P045-D1 BRCA2/CHEK2, P077-B1 BRCA2 Confirmation, P087-D1 BRCA1 Confirmation, and P090-C1 BRCA2, a SALSA MLPA Reagent Kit, and Coffalyser.Net™ analysis software as an artificial positive control DNA sample. SD024 will mimic a heterozygous duplication for several probe targets detected by the above-listed probemixes. Artificial Duplication DNA should never be used as a reference sample in the MLPA data analysis.

Experimental set up

MLPA reactions for artificial duplication purposes should be performed with 5 µl of Artificial Duplication DNA. Inclusion of one reaction with SD024 in an MLPA experiment can be of use in the implementation and validation of the MLPA technique.

Data analysis

Coffalyser.Net software should be used for analysis of MLPA experiments. Coffalyser.Net software is freely available at www.mrcholland.com.

Artificial Duplication DNA content

SD024 consists of a mixture of female genomic DNA from healthy individuals and a titrated amount of plasmid DNA that contains partial sequences of the *BRCA1* and *BRCA2* genes. These partial sequences consist of the target sequences recognized by several probes present in the above-listed probemixes. See

Table 1 and **2** and the corresponding probemix product descriptions for more details. The plasmid included in the SD024 DNA also contains a partial sequence of the *CHEK2* gene. This sequence will be detected by a mutation-specific MLPA probe that is present in the P045-D1 BRCA2/CHEK2 probemix (for details, see Table 2) and will therefore generate a signal for this probe. The partial sequences do not cover complete genes or exons.

The amount of plasmid DNA present is approximately one copy of plasmid DNA / two haploid genome copies. Please note that the plasmid DNA also contains the target sequence of the 105 nt chromosome Y specific control fragment. As a result, the 100 and 105 nt control fragments indicate the presence of two copies of chromosome X and one copy of chromosome Y.

Table 1. BRCA1 probe targets duplicated in Artificial Duplication DNA SD024-S01

Probemix	Gene	Exon MANE Select	Exon classical numbering	Probe length (nt)	Probe ID	Probemix version
P002	BRCA1	Exon 5	Exon 6	374	20032-L27342	D1
	BRCA1	Exon 15	Exon 16	160	20022-L27333	D1
	BRCA1	Exon 21	Exon 22	412	00785-L23318	D1
P087	BRCA1	Exon 14	Exon 15	209	21956-L30984	D1
	BRCA1	Exon 17	Exon 18	185	03398-L02254	D1

The *BRCA1* exon numbers are derived from the MANE project, and based on the MANE Select transcript. The classical exon numbering, that lacks exon 4, from the previous version of this product description is disclosed in a separate column.

Table 2. CHEK2 mutation-specific and BRCA2 probe targets duplicated in Artificial Duplication DNA SD024-S01

Probemix	Gene	Exon	Probe length (nt)	Probe ID	Probemix version	Remarks
P045	BRCA2	Exon 4	202	01600-L23751	D1	
	BRCA2	Exon 8	454	20632-L28323	D1	
	BRCA2	Exon 11	142 †	18385-L23778	D1	
	BRCA2	Exon 13	313	02280-L28326	D1	
	BRCA2	Exon 21	373	20629-L28321	D1	
	CHEK2	Exon 11	490 *	01772-L01336	D1	c.1100delC mutation
P077	BRCA2	Exon 11	196	12296-L13289	B1	
	BRCA2	Intron 18 (Exon 18)	274	12307-L13300	B1	
P090	BRCA2	Exon 4	202	01600-L23751	C1	
	BRCA2	Exon 8	454	20632-L28323	C1	
	BRCA2	Exon 11	142 †	18385-L23778	C1	
	BRCA2	Exon 13	313	02280-L28326	C1	
	BRCA2	Exon 21	373	20629-L28321	C1	

† In SD reaction, this probe may be sensitive to certain experimental conditions. Unusual results should be treated with caution.

* Contrary to the other probes, this probe shows a mutation signal and not a duplicated signal in SD reaction.

The *BRCA2* exon numbers are derived from the MANE project, and based on the MANE Select transcript. The exon numbering from the previous version of this product description is disclosed between brackets.

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

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Implemented changes in the product description

Version S01-14 – 04 December 2024 (12)

- Added exon numbering derived from MANE project for *BRCA1* in Table 1.
- Description of probe targets at the edge of or slightly outside the coding region has been adjusted for *BRCA2* in Table 2. No change in actual target sites.
- Table 1 is split into two tables.
- Added a footnote for *BRCA2* 142 nt 18385-L23778 probe in Table 2.

Version S01-13 – 14 October 2021 (12)

- Product description rewritten and adapted to a new template.
- Information about P045-B3/C1 *BRCA2/CHEK2*, P077-A3 *BRCA2* Confirmation, P087-C1 *BRCA1* Confirmation, and P090-A4/B1 *BRCA2* probemixes are removed.