

Datasheet: TZA0119

BATCH NUMBER 172805

Description:	ANTI H3-S10-ADP-RIBOSE
Specificity:	H3-S10-ADP-RIBOSE
Format:	Purified
Product Type:	Monoclonal Antibody
Clone:	AbD55558
Isotype:	Fab antibody
Quantity:	0.1 mg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
ELISA	▪			
Western Blotting	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

Target Species

Human

Product Form

A monovalent human recombinant Fab selected from the HuCAL® phage display library, Expressed in a proprietary *E. coli* strain. The antibody is tagged with a DYKDDDDK tag, a SpyTag version 2 (VPTIVMVDAYKRYK) and a His6-tag (HHHHHH) at the C-terminus of the antibody heavy chain. This antibody is supplied as a liquid.

Preparation

Recombinant Fab antibody expressed in *E. coli* and purified by affinity chromatography

Source

E. coli.

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.0095% MIT

Carrier Free	Yes
Approx. Protein Concentrations	Total protein concentration 0.5 mg/ml
Immunogen	ARTKQTARKS(adpr)TGGKAPRKQLAGGK-biotin
Specificity	<p>Anti-H3-S10-ADP-ribose antibody, clone AbD55558, recognizes Histone H3, ADP-ribosylated at Serine 10. This antibody also recognizes H3-S28-ADP-ribose due to similarities between sequences flanking the two H3 target sites.</p> <p>Poly(ADP-ribose) polymerase 1 (PARP1) is an early responder to DNA damage in human cells. Upon binding to genomic lesions, PARP1 is able to transfer a mono- or poly-ADP-ribose residue from nicotinamide adenine dinucleotide (NAD⁺) to substrate proteins, for chromatin decompaction and repair factor recruitment (Bütepage et al. 2015, Suskiewicz et al. 2020).</p> <p>During the DNA damage response, serine is the primary target for PARP1 ADP-ribosylation which uses Histone PARylation factor 1 (HPF1) as an accessory factor to switch the amino-acid specificity of PARP1 from aspartate/glutamate to serine residues (Bonfiglio et al. 2017, Suskiewicz et al. 2020). During the DNA damage response PARP1 and HPF1 primarily target PARP1 itself and histone H3, ribosylating these targets.</p> <p>This H3-S10-ADP-ribose antibody, clone AbD55558, is a high affinity H3-S10-ADP-ribose antibody that has been affinity matured from the AbD33644 parental clone (TZA023). Cell lysis in sulfuric acid is recommended to remove general cross-reactivity and enable highly sensitive detection of H3-S10-ADP-ribose by western blotting. Clone AbD55558 is tagged with a SpyTag at the C-terminus of the Fab heavy chain, enabling the user to couple to a SpyCatcher reagent for conversion to alternative formats in less than an hour.</p>
References	<ol style="list-style-type: none"> Dauben, H. <i>et al.</i> (2026) Versatile and sensitive detection of mono- and poly(ADP-ribosylation) reveals XRCC1-dependent remodelling of PARP1 signalling. Nat Commun. 17 (1): 3216.
Further Reading	<ol style="list-style-type: none"> Dauben, H. <i>et al.</i> (2023) A chemical biology/modular antibody platform for ADP-ribosylation signaling. Trends Biochem Sci. 48 (10): 910-911. Bonfiglio, J.J & Matic, I. (2020) Site-Specific Serine Adp-Ribosylated Proteins And Peptides And Method For Producing The Same World Intellectual Property Organization International Publication no. WO2020058277A1
Storage	<p>This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C.</p> <p>Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. Should this product contain a precipitate we recommend microcentrifugation before use.</p>

Guarantee 12 months from date of despatch

Acknowledgements Bio-Rad has obtained the right for the manufacture and commercialization of the antibodies from Max-Planck-Innovation GmbH, the technology transfer office of the Max Planck Institute for Biology of Ageing. Further information on the Serine ADP-ribosylation technology used to generate and characterize the antibodies can be found here: [Dauber et al. 2023](#) and [Bonfiglio et al. 2020](#).
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Health And Safety Information Material Safety Datasheet documentation #20479 available at: <https://www.bio-rad-antibodies.com/SDS/TZA0119>

Regulatory For research purposes only

Product inquiries: www.bio-rad-antibodies.com/technical-support

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
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