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Phospho-rat PARP1(S373) Blocking Peptide

Synthetic peptide
Catalog # BP3786i

Specification

Phospho-rat PARP1(S373) Blocking Peptide - Product Information

Primary Accession	P27008
Other Accession	NP_037195.1

Phospho-rat PARP1(S373) Blocking Peptide - Additional Information

Gene ID 25591

Other Names
Poly [ADP-ribose] polymerase 1, PARP-1, ADP-ribosyltransferase diphtheria toxin-like 1, ARTD1, NAD(+) ADP-ribosyltransferase 1, ADPRT 1, Poly[ADP-ribose] synthase 1, Parp1, Adprt

Target/Specificity
The synthetic peptide sequence is selected from aa 366-379 of RAT Parp1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Phospho-rat PARP1(S373) Blocking Peptide - Protein Information

Name Parp1

Synonyms Adprt

Function

Phospho-rat PARP1(S373) Blocking Peptide - Background

catalyzes poly (ADP-ribose) protein modification; plays a
role in DNA repair and genome stability [RGD].

Phospho-rat PARP1(S373) Blocking Peptide - References

Beneke, S., et al. Mech. Ageing Dev. 131(5):366-369(2010)
Kondo, K., et al. J. Biol. Chem. 285(17):13079-13091(2010)
Zaalishvili, G., et al. Biochem. Biophys. Res. Commun. 393(1):123-125(2010)
Drel, V.R., et al. Endocrinology 150(12):5273-5283(2009)
Adamczyk, A., et al. Folia Neuropathol 47(3):247-251(2009)

Poly-ADP-ribosyltransferase that mediates poly-ADP- ribosylation of proteins and plays a key role in DNA repair. Mediates glutamate, aspartate, serine or tyrosine ADP-ribosylation of proteins: the ADP-D-ribosyl group of NAD(+) is transferred to the acceptor carboxyl group of target residues and further ADP-ribosyl groups are transferred to the 2'-position of the terminal adenosine moiety, building up a polymer with an average chain length of 20-30 units. Serine ADP-ribosylation of proteins constitutes the primary form of ADP-ribosylation of proteins in response to DNA damage. Mainly mediates glutamate and aspartate ADP-ribosylation of target proteins in absence of HPF1. Following interaction with HPF1, catalyzes serine ADP-ribosylation of target proteins; HPF1 conferring serine specificity by completing the PARP1 active site. Also catalyzes tyrosine ADP- ribosylation of target proteins following interaction with HPF1. PARP1 initiates the repair of DNA breaks: recognizes and binds DNA breaks within chromatin and recruits HPF1, licensing serine ADP-ribosylation of target proteins, such as histones, thereby promoting decompaction of chromatin and the recruitment of repair factors leading to the reparation of DNA strand breaks. In addition to base excision repair (BER) pathway, also involved in double-strand breaks (DSBs) repair: together with TIMELESS, accumulates at DNA damage sites and promotes homologous recombination repair by mediating poly-ADP-ribosylation. Mediates the poly(ADP-ribosyl)ation of a number of proteins, including itself, APLF and CHFR. In addition to proteins, also able to ADP- ribosylate DNA: catalyzes ADP-ribosylation of DNA strand break termini containing terminal phosphates and a 2'-OH group in single- and double-stranded DNA, respectively. Required for PARP9 and DTX3L recruitment to DNA damage sites. PARP1-dependent PARP9-DTX3L-mediated ubiquitination promotes the rapid and specific recruitment of 53BP1/TP53BP1, UIMC1/RAP80, and BRCA1 to DNA damage sites. Acts as a regulator of transcription: positively regulates the transcription of MTUS1 and negatively regulates the transcription of MTUS2/TIP150. Plays a role in the positive regulation of IFNG transcription in T-helper 1 cells as part of an IFNG promoter-binding

complex with TXK and EEF1A1. Involved in the synthesis of ATP in the nucleus, together with NMNAT1, PARG and NUDT5. Nuclear ATP generation is required for extensive chromatin remodeling events that are energy-consuming.

Cellular Location
Nucleus {ECO:0000250|UniProtKB:P09874}. Nucleus, nucleolus {ECO:0000250|UniProtKB:P09874}. Chromosome {ECO:0000250|UniProtKB:P09874}. Note=Localizes to sites of DNA damage {ECO:0000250|UniProtKB:P09874}

Phospho-rat PARP1(S373) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides