PCNA siRNA – Proliferating Cell Nuclear Antigen (Human)

PRODUCT OVERVIEW

Product Name	PCNA, siRNA
Full Product Name	PCNA siRNA (Human)
Product Gene Name	PCNA sirna
Product Synonym Names	Proliferating cell nuclear antigen; PCNA; Cyclin
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	PCNA siRNA (Human) is a target-specific 19-23 nt siRNA oligo duplexes designed to knock down gene expression.
Preparation and Storage	Shipped at 4 degree C. Store at -20 degree C for one year.
Molecular Weight	28,769 Da
OMIM	176740
3D Structure	ModBase 3D Structure for P12004
Negative Control	siRNA Negative Control (Catalog# MBS8241404) is a non-targeting 21 nt siRNA recommended as a negative control for experiments using targeted siRNA transfection.
Quality Control	Oligonucleotide synthesis is monitored base by base through trityl analysis to ensure appropriate coupling efficiency. The oligo is subsequently purified by affinity-solid phase extraction. The annealed RNA duplex is further analyzed by mass spectrometry to verify the exact composition of the duplex. Each lot is compared to the previous lot by mass spectrometry to ensure maximum lot-to-lot consistency.
Directions for Use	We recommends transfection with 100 nM siRNA 48 to 72 hours prior to cell lysis. Before resuspending, briefly centrifuge the tube to ensure the lyophilized siRNA is at the bottom of the tube. Resuspend the siRNA oligos to an appropriate concentration with DEPC water. For each vial, suitable for 250 transfections in 24 well plate (20 pmol for each well).
Components	We offer pre-designed sets of 3 different target-specific siRNA oligo duplexes of human PCNA gene. Each vial contains 5 nmol of lyophilized siRNA. The duplexes can be transfected individually or pooled together to achieve knockdown of the target gene, which is most commonly assessed by qPCR or western blot. Our siRNA oligos are also chemically modified (2'-OMe) at no extra charge for increased stability and enhanced knockdown in vitro and in vivo.
Applications Tested/Suitable for PCNA sirna	RNA Interference (RNAi)
Related Product Information for PCNA sirna	MBS8239385 is an siRNA targeting PCNA. Also known as PCNA siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit PCNA expression using RNA interference
Other Notes	Small volumes of PCNA sirna vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PCNA. It may not necessarily be applicable to this product.

NCBI GI #	4505641
NCBI GeneID	5111
NCBI Accession #	NP_002583.1
UniProt Primary Accession #	P12004
UniProt Secondary Accession #	B2R897; D3DW02
UniProt Related Accession #	P12004
GenBank Nucleotide #	NM_002592.2
NCBI Official Full Name	proliferating cell nuclear antigen
NCBI Official Synonym Full Names	proliferating cell nuclear antigen
NCBI Official Symbol	PCNA
NCBI Official Synonym Symbols	ATLD2
UniProt Protein Name	Proliferating cell nuclear antigen
UniProt Synonym Protein Names	Cyclin
Protein Family	Probable DNA polymerase sliding clamp
UniProt Gene Name	PCNA
UniProt Synonym Gene Names	PCNA
UniProt Entry Name	PCNA_HUMAN
NCBI Protein Information	proliferating cell nuclear antigen
NCBI Summary for PCNA	The protein encoded by this gene is found in the nucleus and is a cofactor of DNA polymerase delta. The encoded protein acts as a homotrimer and helps increase the processivity of leading strand synthesis during DNA replication. In response to DNA damage, this protein is ubiquitinated and is involved in the RAD6-dependent DNA repair pathway. Two transcript variants encoding the same protein have been found for this gene. Pseudogenes of this gene have been described on chromosome 4 and on the X chromosome. [provided by RefSeq, Jul 2008]

UniProt Comments for PCNA	PCNA: This protein is an auxiliary protein of DNA polymerase delta and is involved in the control of eukaryotic DNA replication by increasing the polymerase's processibility during elongation of the leading strand. Induces a robust stimulatory effect on the 3'- 5' exonuclease and 3'-phosphodiesterase, but not apurinic- apyrimidinic (AP) endonuclease, APEX2 activities. Has to be loaded onto DNA in order to be able to stimulate APEX2. Homotrimer. Forms a complex with activator 1 heteropentamer in the presence of ATP. Interacts with EXO1, POLH, POLK, DNMT1, ERCC5, FEN1, CDC6 and POLDIP2. Interacts with APEX2; this interaction is triggered by reactive oxygen species and increased by misincorporation of uracil in nuclear DNA. Forms a ternary complex with DNTTIP2 and core histone. Interacts with KCTD10 and PPP1R15A. Interacts with POLD1, POLD3 and POLD4. Interacts with BAZ1B; the interaction is direct. Interacts with HLTF and SHPRH. Interacts with NUDT15. Interaction is disrupted in response to UV irradiation and acetylation. Interacts with p21Cip1/p21(CIP1) and CDT1; interacts via their PIP-box which also recruits the DCX(DTL) complex. Interacts with DDX11. Interacts with EGFR; positively regulates PCNA. Interacts with C12orf48/PARI. Interacts with SMARCAD1. Belongs to the PCNA family. Protein type: Cell cycle regulation; DNA replication Chromosomal Location of Human Ortholog: 20pter-p12 Cellular Component: nucleoplasm; centrosome; PCNA complex; DNA replication factor C complex; cytoplasm; nuclear replication fork; nucleus Molecular Function: identical protein binding; protein binding; DNA polymerase processivity factor activity; MutLalpha complex binding; purine-specific mismatch base pair DNA N-glycosylase activity; receptor tyrosine kinase binding; dinucleotide insertion or deletion binding Biological Process: mismatch repair; heart development; positive regulation of deoxyribonuclease activity; DNA strand elongation during DNA replication; leading strand elongation; response to lipid; DNA repair; telomere maintenance via semi-conservative replication; G1/S-specific transcription in mitotic cell cycle; cell proliferation; bypass DNA synthesis; response to cadmium ion; epithelial cell differentiation; base-excision repair; nucleotide-excision repair; transcription-coupled nucleotide-excision repair; telomere maintenance via recombination; nucleotide-excision repair, DNA gap filling; mitotic cell cycle; telomere maintenance; regulation of DNA replication; G1/S transition of mitotic cell cycle Disease: Ataxia-telangiectasia-like Disorder 2
Research Articles on PCNA	**1.** the hydroxyl group of Tyr151 in p21 acts as a tethering point for ideal packing and surface recognition of the peptide interface, increasing the binding affinity of p21 for PCNA.
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