PIAS3 siRNA – E3 SUMO-Protein Ligase PIAS3 (Human)

PRODUCT OVERVIEW

Product Name	PIAS3, siRNA
Full Product Name	PIAS3 siRNA (Human)
Product Gene Name	PIAS3 sirna
Product Synonym Names	E3 SUMO-protein ligase PIAS3; Protein inhibitor of activated STAT protein 3
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	PIAS3 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.
OMIM	605987
3D Structure	ModBase 3D Structure for Q9Y6X2
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 PIAS3 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 PIAS3 sirna	RNA Interference (RNAi)
Related Product Information for PIAS3 sirna	MBS8227686 is an siRNA targeting PIAS3. Also known as PIAS3 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit PIAS3 expression using RNA interference
Other Notes	Small volumes of PIAS3 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 PIAS3. It may not necessarily be applicable to this product.

NCBI GI #	115298686

NCBI GeneID	10401
NCBI Accession #	NP_006090.2
UniProt Primary Accession #	Q9Y6X2
UniProt Secondary Accession #	Q9UFI3
UniProt Related Accession #	Q9Y6X2
GenBank Nucleotide #	NM_006099.3
NCBI Official Full Name	E3 SUMO-protein ligase PIAS3
NCBI Official Synonym Full Names	protein inhibitor of activated STAT, 3
NCBI Official Symbol	PIAS3
NCBI Official Synonym Symbols	ZMIZ5
UniProt Protein Name	E3 SUMO-protein ligase PIAS3
UniProt Synonym Protein Names	Protein inhibitor of activated STAT protein 3
Protein Family	E3 SUMO-protein ligase
UniProt Gene Name	PIAS3
UniProt Entry Name	PIAS3_HUMAN
NCBI Protein Information	E3 SUMO-protein ligase PIAS3
NCBI Summary for PIAS3	This gene encodes a member of the PIAS [protein inhibitor of activated STAT (signal transducer and activator of transcription)] family of transcriptional modulators. The protein functions as a SUMO (small ubiquitin-like modifier)-E3 ligase which catalyzes the covalent attachment of a SUMO protein to specific target substrates. It directly binds to several transcription factors and either blocks or enhances their activity. Alternatively spliced transcript variants of this gene have been identified, but the full-length nature of some of these variants has not been determined. [provided by RefSeq, Jul 2008]
UniProt Comments for PIAS3	PIAS3: Functions as an E3-type small ubiquitin-like modifier (SUMO) ligase, stabilizing the interaction between UBE2I and the substrate, and as a SUMO-tethering factor. Plays a crucial role as a transcriptional coregulation in various cellular pathways, including the STAT pathway and the steroid hormone signaling pathway. Involved in regulating STAT3 signaling via inhibiting STAT3 DNA-binding and suppressing cell growth. Monomer. Binds SUMO1 and UBE2I. Interacts with BCL11A, HMGA2, IRF1, MITF and NCOA2. Interacts with STAT5; the interaction occurs on stimulation by PRL. Interacts with GFI1; the interaction relieves the inhibitory effect of PIAS3 on STAT3-mediated transcriptional activity. Interacts with AR, PLAG1 and ZFHX3. Interacts with STAT3; the interaction occurs on stimulation by IL6, CNTF or OSM and inhibits the DNA binding activity of STAT3. By dihydrotestosterone (DHT) in prostate cancer cells. Isoform 1 is expressed in most tissues except thymus and small intestine. Isoform 3 is expressed only in brain, heart, thymus, muscle, lung, testis, lactating breast and embryonic stem cells. Belongs to the PIAS family. Protein type: SUMO conjugating system; Nuclear receptor co-regulator; EC 6.3.2.- Chromosomal Location of Human Ortholog: 1q21 Cellular Component: dendrite; cytoplasm; synapse; nucleus Molecular Function: protein C-terminus binding; protein binding; potassium channel regulator activity; enzyme binding; zinc ion binding; protein N-terminus binding; SUMO ligase activity; ligase activity Biological Process: positive regulation of protein sumoylation; protein sumoylation; regulation of transcription, DNA-dependent; transcription, DNA-dependent; response to hormone stimulus; positive regulation of membrane potential
Research Articles on PIAS3	**1.** Low PIAS3 expression in malignant mesothelioma is associated with increased STAT3 activation and poor patient survival.

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