NPR1 siRNA – Atrial Natriuretic Peptide Receptor 1 (Human)

PRODUCT OVERVIEW

Product Name	NPR1, siRNA
Full Product Name	NPR1 siRNA (Human)
Product Gene Name	NPR1 sirna
Product Synonym Names	ANPRA; Atrial natriuretic peptide receptor 1; Atrial natriuretic peptide receptor type A; ANP-A; ANPR-A; NPR-A; Guanylate cyclase A; GC-A
Host	Synthetic
Species Reactivity	Human
Form/Format	Lyophilized powder
Purity/Purification	> 97%
Specificity	NPR1 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	118,919 Da
OMIM	108960
3D Structure	ModBase 3D Structure for P16066
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 NPR1 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 NPR1 sirna	RNA Interference (RNAi)
Related Product Information for NPR1 sirna	MBS8231390 is an siRNA targeting NPR1. Also known as NPR1 siRNA (Human). Reactive in Human. Host: Synthetic. siRNA to inhibit NPR1 expression using RNA interference
Other Notes	Small volumes of NPR1 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 NPR1. It may not necessarily be applicable to this product.

NCBI GI #	167830411
NCBI GeneID	4881
NCBI Accession #	NP_000897.3
UniProt Primary Accession #	P16066
UniProt Secondary Accession #	Q5SR08; Q6P4Q3; B0ZBF0
UniProt Related Accession #	P16066
GenBank Nucleotide #	NM_000906.3
NCBI Official Full Name	atrial natriuretic peptide receptor 1
NCBI Official Synonym Full Names	natriuretic peptide receptor 1
NCBI Official Symbol	NPR1
NCBI Official Synonym Symbols	ANPa; NPRA; ANPRA; GUC2A; GUCY2A
UniProt Protein Name	Atrial natriuretic peptide receptor 1
UniProt Synonym Protein Names	Atrial natriuretic peptide receptor type A; ANP-A; ANPR-A; NPR-A; Guanylate cyclase A; GC-A
Protein Family	Atrial natriuretic peptide receptor
UniProt Gene Name	NPR1
UniProt Synonym Gene Names	ANPRA; ANP-A; ANPR-A; NPR-A; GC-A
UniProt Entry Name	ANPRA_HUMAN
NCBI Protein Information	atrial natriuretic peptide receptor 1
NCBI Summary for NPR1	Guanylyl cyclases, catalyzing the production of cGMP from GTP, are classified as soluble and membrane forms (Garbers and Lowe, 1994 [PubMed 7982997]). The membrane guanylyl cyclases, often termed guanylyl cyclases A through F, form a family of cell-surface receptors with a similar topographic structure: an extracellular ligand-binding domain, a single membrane-spanning domain, and an intracellular region that contains a protein kinase-like domain and a cyclase catalytic domain. GC-A and GC-B function as receptors for natriuretic peptides; they are also referred to as atrial natriuretic peptide receptor A (NPR1) and type B (NPR2; MIM 108961). Also see NPR3 (MIM 108962), which encodes a protein with only the ligand-binding transmembrane and 37-amino acid cytoplasmic domains. NPR1 is a membrane-bound guanylate cyclase that serves as the receptor for both atrial and brain natriuretic peptides (ANP (MIM 108780) and BNP (MIM 600295), respectively).[supplied by OMIM, May 2009]

UniProt Comments for NPR1	ANPA: natriuretic peptide receptor A, which mediates natriuretic, diuretic, and vasorelaxing actions of the natriuretic peptides. Contains five functional domains: an extracellular ligand-binding domain, a single membrane-spanning region, and intracellularly a protein kinase homology domain, a helical hinge region involved in oligomerization, and a carboxyl-terminal guanylyl cyclase catalytic domain. Belongs to the adenylyl cyclase class-4/guanylyl cyclase family. Has guanylate cyclase activity on binding of ANF. Hypertensive SHR Rat has polymorphism at the locus. Human non-coding polymorphisms can alter expression up to two-fold, and have been associated with hypertension. A coding SNP is associated with hypertension and myocardial infarction. Protein type: Nucleotide Metabolism - purine; Protein kinase, RGC; Protein kinase, dual-specificity (receptor); Lyase; EC 4.6.1.2; Membrane protein, integral; Kinase, protein; Receptor, misc.; Guanylyl cyclase; RGC group; RGC family Chromosomal Location of Human Ortholog: 1q21-q22 Cellular Component: integral to plasma membrane; receptor complex Molecular Function: guanylate cyclase activity; hormone binding; GTP binding; natriuretic peptide receptor activity; peptide hormone binding; peptide receptor activity, G-protein coupled; protein kinase binding; ATP binding; protein kinase activity Biological Process: cGMP biosynthetic process; regulation of vasodilation; negative regulation of smooth muscle cell proliferation; body fluid secretion; dopamine metabolic process; protein amino acid phosphorylation; G-protein coupled receptor protein signaling pathway; negative regulation of angiogenesis; cell surface receptor linked signal transduction; positive regulation of cGMP biosynthetic process; receptor guanylyl cyclase signaling pathway; regulation of blood pressure; regulation of vascular permeability; negative regulation of cell growth; regulation of blood vessel size
Research Articles on NPR1	**1.** NPRA was detected in E11.5 cardiac progenitor cells.
Precautions	All of MyBioSource's Products are for scientific laboratory research purposes and are not for diagnostic, therapeutics, prophylactic or in vivo use. Through your purchase, you expressly represent and warrant to MyBioSource that you will properly test and use any Products purchased from MyBioSource in accordance with industry standards. MyBioSource and its authorized distributors reserve the right to refuse to process any order where we reasonably believe that the intended use will fall outside of our acceptable guidelines.
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