Paired Related Homeobox 1 (PRRX1) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Paired Related Homeobox 1 (PRRX1), Recombinant Protein
Full Product Name	Recombinant Human Paired Related Homeobox 1
Product Gene Name	PRRX1 recombinant protein
Product Synonym Names	PRRX1 Human; Paired Related Homeobox 1 Human Recombinant; AGOTC; PHOX1; PMX1; PRX-1; PRX1; Paired mesoderm homeobox protein 1; Homeobox protein PHOX1; Paired-related homeobox protein 1; PRRX1
Sequence	MGSSHHH HHH SSGLVPRGSH MGSHMT SSYG HVLERQPALG GRLDSPGNLD TLQAKKNFSV SHLLDLEEAG DMVAAQADEN VGEAGRSLLE SPGLTSGSDT PQQDNDQLNS EEKKKRKQRR NRTTFNSSQL QALERVFERT HYPDAFVRED LARRVNLTEA RVQVWFQNRR AKFRRNERAM LANKNASLLK SYSGDVTAVE QPIVPRPAPR PTDYLSWGTA SPYRSSSLPR CCLHEGLHNG F
Host	E Coli
Form/Format	PRRX1 protein solution (0.25mg/ml) containing 20mM Tris-HCl buffer (pH 8.0), 0.2M NaCl, 50% glycerol and 2mM DTT. Sterile Filtered clear solution.
Purity/Purification	Greater than 85.0% as determined by SDS-PAGE.
Molecular Weight	24,396 Da
OMIM	167420
3D Structure	ModBase 3D Structure for P54821
Product Categories/Family for PRRX1 recombinant protein	Recombinant & Natural Proteins; Recombinant Proteins; Homeobox
Related Product Information for PRRX1 recombinant protein	**Description:** PRRX1 Human Recombinant produced in E Coli is a single, non-glycosylated polypeptide chain containing 241 amino acids (1-217 a.a) and having a molecular mass of 26.9kDa.PRRX1 is fused to a 24 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques. **Introduction:** PRRX1 is part of the paired family of homeobox proteins. PRRX1 functions as a transcription co-activator, enhancing the DNA-binding activity of serum response factor, a protein required for the induction of genes by growth and differentiation factors. PRRX1 also regulates muscle creatine kinase, and therefore has a part in the establishment of diverse mesodermal muscle types. The protein binds to an A/T-rich element in the muscle creatine enhancer. Among the diseases associated with PRRX1 are agnathia-otocephaly complex, and pleomorphic liposarcoma.
Other Notes	Small volumes of PRRX1 recombinant protein 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.
Searchable Terms for PRRX1 purchase	MBS146037 is a recombinant protein targeting PRRX1. Also known as Recombinant Human Paired Related Homeobox 1. Host: E Coli.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PRRX1. It may not necessarily be applicable to this product.

NCBI GI #	5902024
NCBI GeneID	5396
NCBI Accession #	NP_008833.1

UniProt Primary Accession #	P54821
UniProt Secondary Accession #	O60807; B5BUM7
UniProt Related Accession #	P54821
GenBank Nucleotide #	NM_006902.4
NCBI Official Full Name	paired mesoderm homeobox protein 1 isoform pmx-1a
NCBI Official Synonym Full Names	paired related homeobox 1
NCBI Official Symbol	PRRX1
NCBI Official Synonym Symbols	PMX1; PRX1; AGOTC; PHOX1; PRX-1
UniProt Protein Name	Paired mesoderm homeobox protein 1
UniProt Synonym Protein Names	Homeobox protein PHOX1; Paired-related homeobox protein 1; PRX-1
Protein Family	Paired mesoderm homeobox protein
UniProt Gene Name	PRRX1
UniProt Synonym Gene Names	PMX1; PRX-1
UniProt Entry Name	PRRX1_HUMAN
NCBI Protein Information	paired mesoderm homeobox protein 1; homeobox protein PHOX1; paired mesoderm homeobox 1 isoform pmx-1b
NCBI Summary for PRRX1	The DNA-associated protein encoded by this gene is a member of the paired family of homeobox proteins localized to the nucleus. The protein functions as a transcription co-activator, enhancing the DNA-binding activity of serum response factor, a protein required for the induction of genes by growth and differentiation factors. The protein regulates muscle creatine kinase, indicating a role in the establishment of diverse mesodermal muscle types. Alternative splicing yields two isoforms that differ in abundance and expression patterns. [provided by RefSeq, Jul 2008]
UniProt Comments for PRRX1	PRRX1: Acts as a transcriptional regulator of muscle creatine kinase (MCK) and so has a role in the establishment of diverse mesodermal muscle types. The protein binds to an A/T-rich element in the muscle creatine enhancer. Defects in PRRX1 are the cause of agnathia-otocephaly complex (AGOTC). AGOTC is a rare condition characterized by mandibular hypoplasia or agnathia, ventromedial auricular malposition (melotia) and/or auricular fusion (synotia), and microstomia with oroglossal hypoplasia or aglossia. Holoprosencephaly is the most commonly identified association, but skeletal, genitourinary, and cardiovascular anomalies, and situs inversus have been reported. The disorder is almost always lethal. Belongs to the paired homeobox family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: DNA-binding Chromosomal Location of Human Ortholog: 1q24 Cellular Component: nucleolus; nucleus Molecular Function: sequence-specific DNA binding; transcription coactivator activity Biological Process: inner ear morphogenesis; cartilage development; positive regulation of mesenchymal cell proliferation; artery morphogenesis; positive regulation of smoothened signaling pathway; middle ear morphogenesis; embryonic cranial skeleton morphogenesis; palate development; negative regulation of transcription from RNA polymerase II promoter; embryonic limb morphogenesis Disease: Agnathia-otocephaly Complex
Research Articles on PRRX1	**1.** Overexpression of PRRX1 in stably overexpressed-miR-124 cell lines could rescue the effects of radiosensitivity enhancement brought by miR-124.

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