

AR31057PU-L

Human MESP1 - Purified

Alternate names:

Mesoderm posterior protein 1

Quantity:

50 µg

Background:

ES-cell-based cardiovascular repair requires an in-depth understanding of the molecular mechanisms underlying the differentiation of cardiovascular ES cells. A candidate cardiovascular-fate inducer is the bHLH transcription factor MesP1 (1,2). As one of the earliest markers, it is expressed specifically in almost all cardiovascular precursors and is required for cardiac morphogenesis (2,3). It was shown that MesP1 is a key factor sufficient to induce the formation of ectopic heart tissue in vertebrates and increase cardiovascularogenesis by ES cells. Electrophysiological analysis showed all subtypes of cardiac ES-cell differentiation (4). MesP1 overexpression and knockdown experiments revealed a prominent function of MesP1 in a gene regulatory cascade, causing Dkk-1-mediated blockade of canonical Wnt-signalling. Independent evidence from ChIP and in vitro DNA-binding studies, expression analysis in wild-type and MesP knockout mice, and reporter assays confirm that Dkk-1 is a direct target of MesP1.

Uniprot ID:

[Q9BRI9](#)

NCBI:

[NP_061140.1](#)

GeneID:

[55897](#)

Species:

Human

Source:

Insect cells

Format:

State: Lyophilized purified protein

Purity: >95% by SDS-PAGE & silver stain

Buffer System: 0.5 x PBS

Stabilizers: None

Endotoxin Level: < 0.1 ng per µg of MesP1

Reconstitution: Restore in sterile water to a concentration of 0.1 mg/ml. This solution can be diluted in water or other buffer solutions or stored at -20°C.

Description:

Recombinant Human MesP1.

AA Sequence:

MAQPLCPPLSESWMLSAAWGPTRPPPSDKDCGRSLVSSPDSWGSTPADSPVASPARPGTLRDPRAPSVGRR
GARSS

RLGSGQRQSASEREKLRMRTLARALHELRRFLPPSVAPAGQSLTKIETLRAIRYIGHLSAVLGLSEESLQRR
CRQRG

DAGSPRGCP LCPDDCPAQMQRTRQAEGQGQGRGLVSAVRAGASWGSPACPGARAAPEPRDPPALFAEAA
CPEGQ

AMEPSPPSPLLPGDVLALLETWMLSPLEWLPEEPK

Molecular weight: ~ 34 kDa (268 amino acids)

Storage:

Store lyophilized at 2-8°C for 6 months or at -20°C long term.
After reconstitution store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C long term.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

General Readings:

1. Saga Y et al, Development 126:3437, 1999.
2. Saga Y et al; Trends Cardiovasc Med 10:345, 2000.
3. Kitajima S et al, Dev Dyn 235:395, 2006.
4. Maltsev VA et al, Circ Res 75:233, 1994.

Pictures:

SDS-PAGE analysis of recombinant Human MesP1: Sample was loaded in 15% SDS-polyacrylamide gel and stained with Silver staining. Lane 1: Molecular weight marker (kDa). Lane 2: Reduced MesP1.

