

# Recombinant Human SMOC2 protein (His tag)

Catalog Number:PDEH100244



**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

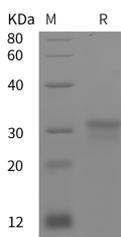
## Description

<b>Synonyms</b>	MST117;MSTP117;MSTP140;Secreted modular calcium binding protein 2;SMAP 2;SMAP-2;Smooth muscle associated protein 2
<b>Species</b>	Human
<b>Expression Host</b>	E.coli
<b>Sequence</b>	Gln 229-Val 415
<b>Accession</b>	Q9H3U7
<b>Calculated Molecular Weight</b>	20.5 kDa
<b>Observed molecular weight</b>	32 kDa
<b>Tag</b>	N-His

## Properties

<b>Purity</b>	> 95 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	Please contact us for more information.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01 % Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

## Data



> 95 % as determined by reducing SDS-PAGE.

## Background

SMOC-2 (secreted, or SPARC-related, modular calcium-binding protein 2), previously called SMAP2 (smooth muscle-associated protein 2), is a 55 kDa glycoprotein that is a member of the SPARC family of matricellular proteins. The human SMOC-2 cDNA encodes 446 amino acids (aa), including a 21 aa signal sequence, a Kazal-like domain (aa 40 - 84), two thyroglobulin type-1 segments (aa 87 - 153 and 213 - 281) and two EF-hand sequences (aa 347 - 382 and 384 - 419). Of three splice variants, one shows a 13 aa substitution for aa 442 - 446, another shows an 11 aa insertion after Thr170, and a third contains both of these variations. SMOC-2 is widely expressed in the extracellular matrix and appears to have adhesion-related functions. Recombinant bacterially produced human SMOC-1 and SMOC-2 can bind the acute

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phase protein, C-reactive protein, and the adhesion proteins, fibulin and vitronectin, while keratinocyte SMOC-2 binds integrins alpha v beta 1 and alpha v beta 6. SMOC-2 promotes cell cycle progression by signaling through the integrin-linked kinase (ILK) to upregulate cyclin-D1. When expressed in the endothelial extracellular matrix, it potentiates growth factor-induced angiogenesis. SMOC-2 expression is upregulated during neointima formation, promoting proliferation and migration of vascular smooth muscle. In the skin, it promotes keratinocyte attachment and migration. Since Kazal and thyroglobulin domains are often found in protease inhibitors, SMOC-2 is also proposed to inhibit proteases in the lung and artery.

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