

Recombinant Human SMOC2 Protein (His Tag)

Catalog Number: PDEH100900

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

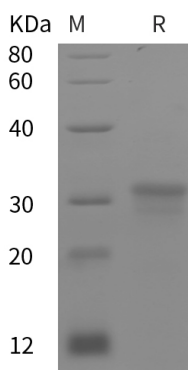
Description

Species	Human
Source	E.coli-derived Human SMOC2 protein Gln229-Val415, with an N-terminal His
Calculated MW	20.5 kDa
Observed MW	32 kDa
Accession	Q9H3U7
Bio-activity	Not validated for activity

Properties

Purity	> 95% as determined by reducing SDS-PAGE.
Endotoxin	< 10 EU/mg of the protein as determined by the LAL method
Storage	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.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Human SMOC2 proteins, 2 µg/lane of Recombinant Human SMOC2 proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 32 kDa.

Background

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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 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.