

DESCRIPTION

Species Reactivity	Mouse/Rat
Specificity	Detects mouse and rat SMOC-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 30% cross-reactivity with recombinant human (rh) SMOC-1 is observed and less than 1% cross-reactivity with recombinant mouse
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse SMOC-1 His26-Val452 Accession # AAD41590
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Western Blot Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

SMOC-1 (secreted, or SPARC-related, modular calcium-binding protein 1) is a 70-90 kDa secreted glycoprotein that is a member of the SPARC family of matricellular molecules (1). Mature mouse SMOC-1 is 427 amino acids (aa) in length. It contains one Kazal-like domain (aa 42-86), two thyroglobulin type-1 segments (aa 91-157 and 223-291) and two functional EF-hand sequences (aa 358-393 and 395-430) (1, 2). Two splice variants contain an insertion of eleven aa after Lys174, with one of these also including an alternate start site at Met65 (3). Mature mouse SMOC-1 shares 99% aa identity with rat SMOC-1 and 92% aa identity with human, canine and bovine SMOC-1. The principal difference between rodents and other mammals is an additional 19 aa near the C-terminus of rodent SMOC-1. Like other matricellular proteins, SMOC-1 is primarily expressed in basement membranes, although it has also been found in other extracellular matrices and the oocyte zona pellucida (1). It is present early in mouse embryogenesis, and is produced by cells deriving from all three germ layers (4). Recombinant bacterially produced human SMOC-1 and SMOC-2 were both shown to bind the acute phase protein, C-reactive protein, and the adhesion proteins, fibulin and vitronectin (2). A signaling role for SMOC-1 was shown in rat mesangial cells: induction of nitric oxide in response to inflammatory cytokines downregulates SMOC-1 which, in turn, downregulates expression of TGF-β and TGF-β-regulated genes. This mechanism is proposed to limit the profibrotic effects of TGF-β, for example in the glomerulus (5). In *Xenopus*, the SMOC paralog has been shown to antagonize BMP activity.

PRODUCT SPECIFIC NOTICES

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