

DESCRIPTION

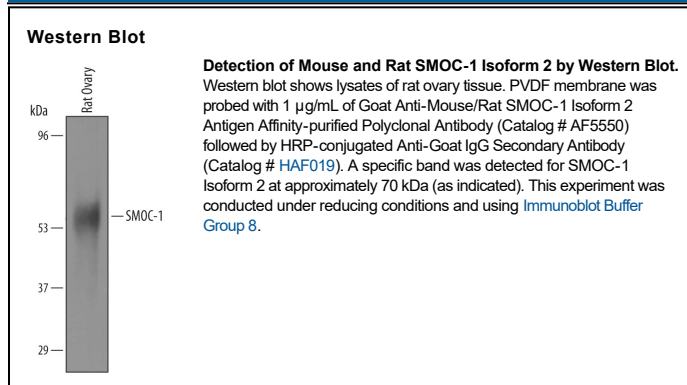
Species Reactivity	Mouse/Rat
Specificity	Detects mouse and rat SMOC-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 30% cross-reactivity with recombinant human (rh) SMOC-1 is observed and less than 1% cross-reactivity with recombinant mouse SMOC-2 and rhSMOC-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse SMOC-1 His26-Val452 Accession # AAD41590
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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.

References:

1. Vannahme, C. *et al.* (2002) *J. Biol. Chem.* **277**:37977.
2. Novinec, M. *et al.* (2008) *Protein Expr. Purif.* **62**:75.
3. Entrez Q8BLY1 and EDL02699.
4. Gersdorff, N. *et al.* (2006) *Histochem. Cell Biol.* **126**:705.
5. Dreieicher, E. *et al.* (2009) *J. Am. Soc. Nephrol.* **20**:1963.
6. Thomas, J.T. *et al.* (2009) *J. Biol. Chem.* **284**:18994.