Mouse Kremen-2 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1764

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Kremen-2 in direct ELISAs and Western blots. In direct ELISAs, approximately 10% cross-reactivity with recombinant human Kremen-2 is observed and less than 1% cross-reactivity with recombinant mouse Kremen-1 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Kremen-2 Gly25-Thr371 Accession # Q8K1S7
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

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	0.1 µg/mL	Recombinant Mouse Kremen-2 (Catalog # 1764-KR)

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.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 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

Kremen (Kringle-containing protein marking the eye and the nose) proteins are type I transmembrane proteins that contain extracellular kringle, WSC and CUB domains and an intracellular region without any conserved motifs (1). Two related members, Kremen-1 and -2, have been identified. Kremens bind a subset of the secreted Dickkopf (Dkk) proteins (Dkk-1, -2, and -4) with high affinity to modulate the canonical Wnt signaling pathway that is transduced by the ternary receptor complex composed of Wnt, the seven-transmembrane domain receptor Frizzled, and the LDL-receptor-related protein 5/6 (LRP5/6) coreceptor (2, 3). Within the Dkk family, Dkk-1 and -4 bind directly to the LRP5/6 coreceptor to antagonize the canonical Wnt/β-catenin signaling pathway, but not the planar cell polarity (PCP) signaling pathway that does not involve LRP5/6 (4). In contrast, Dkk-3 has no effect on Wnt signaling and Dkk-2 can function either as an LRP agonist or antagonist, depending on whether the cell expresses Kremen (5). Kremen cooperates with Dkk to antagonize Wnt signaling via formation of a Kremen-Dkk-LRP ternary complex that triggers the internalization and clearance of the complex from the cell surface (3). All three extracellular domains but not the cytoplasmic region of a membrane anchored Kremen are needed for binding to the second cysteine-rich domain of Dkks (3). Mouse Kremen-2 cDNA encodes a 461 amino acid (aa) glycosylated protein with a putative 24 aa signal peptide, a 339 aa extracellular domain, a 23 aa transmembrane domain and a 75 aa cytoplasmic domain. In the extracellular domain, it shares 88% and 41% amino acid sequence identity with human Kremen-2 and mouse Kremen-1, respectively.

References:

1. Nakamura, T. *et al.* (2001) Biochim Biophys Acta **1518**:63.
2. Davidson G. *et al.* (2002) Development **129**:5587.
3. Mao, B. *et al.* (2002) Nature **417**:664.
4. Zorn, A.M. (2001) Curr. Biol. **11**:R592.
5. Mao, B. and C. Niehrs (2003) Gene **302**:179.