

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Kremen-1 in direct ELISAs and Western blots. In direct ELISAs, approximately 15% cross-reactivity with recombinant human Kremen-2 and recombinant mouse Kremen-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Kremen-1 Ala20-Gly395 Accession # Q640Q6
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	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

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) co-receptor (2, 3). Within the Dkk family, Dkk-1 and -4 bind directly to the LRP5/6 co-receptor 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 co-operates 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-1 cDNA encodes a 473 amino acid (aa) glycosylated protein with a putative 19 aa signal peptide, a 372 aa extracellular domain, a 21 aa transmembrane domain and a 60 aa cytoplasmic domain. In the extracellular domain, it shares 92% and 41% amino acid sequence identity with human Kremen-1 and mouse Kremen-2, respectively. Mouse Kremen-1 is widely expressed in diverse embryonic (apical ectodermal ridge of the developing fore- and hindlimb buds, telencephalon and the first brachial arch, myotome and sensory tissues) and adult (lung, heart, kidney, skeletal muscle and testis) tissues (1).

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