Human Kremen-2 Alexa Fluor® Plus 594-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1946AFP594
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Kremen-2 in direct ELISAs and Western blots. In direct ELISAs, approximately 25% cross-reactivity with recombinant mouse Kremen-2 and recombinant rat Kremen-2 is observed and less than 15% cross-reactivity with recombinant human Kremen-1 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Kremen-2 Gln19-Ala364 Accession # Q8NCW0
Conjugate	Alexa Fluor Plus 594 Excitation Wavelength: 590 nm Emission Wavelength: 618 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and 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.

DATA

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) 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). Human Kremen-2 cDNA encodes a 462 amino acid (aa) glycosylated protein with a putative 18 aa signal peptide, a 353 aa extracellular domain, a 17 aa transmembrane domain and a 75 aa cytoplasmic domain. In the extracellular domain, it shares 88% and 42% amino acid sequence identity with mouse Kremen-2 and human 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.

PRODUCT SPECIFIC NOTICES

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