Human GASP-2/WFIKKN Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF2136

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human GASP-2/WFIKKN in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 5% cross-reactivity with recombinant human GASP-1 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human GASP-2/WFIKKN Ala20-Asp548 Accession # Q96NZ8
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	0.1 µg/mL	Recombinant Human GASP-2/WFIKKN (Catalog # 2136-GS)

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.** ● 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

Growth and differentiation factor-associated serum protein-2 (GASP-2) cDNA encodes a 548 amino acid protein that contains a 19 amino acid signal sequence and is comprised of many conserved domains: WAP, follistatin/Kazal, immunoglobulin, two tandem Kunitz, and netrin (1). Based on the order of these conserved domains, GASP-2 is also known as WFIKKN (1). Another related protein which contains the same domain structure is called WFIKKNRP (WFIKKN-related protein), or GASP-1 (2, 3). WAP, follistatin, Kunitz and netrin domains are all implicated in protease inhibition, and the GASP proteins may be multivalent protease inhibitors (1, 4). Tests at R&D Systems have measured the ability of GASP-2 to inhibit trypsin cleavage of the fluorogenic peptide substrate Mca-RPKPVE-Nval-WRK(Dnp)-NH_2 (R&D Systems Catalog # ES002). The IC_{50} value was approximately 10 nM, as measured in a reaction mixture containing 1.0 nM trypsin, 10 µM ES002, 50 mM Tris, 10 mM CaCl2, 0.15 M NaCl, pH 7.5.

GASP-1 and -2 show distinct expression patterns both in the developing fetus and the adult. In the developing fetus, GASP-2 is abundant in the lung, skeletal muscle and liver while GASP-1 expression is highest in the brain, skeletal muscle, thymus and kidney (3). In the adult, GASP-2 is expressed primarily in the pancreas, liver, and thymus while GASP-1 is in the ovary, testis, and brain (3). Further characterization shows that GASP-1 inhibits myostatin (GDF-8) and the highly related protein, GDF-11, but not Activin or TGF-β *in vitro* (2). Although, this kind of activity has not been reported for GASP-2, tests at R&D Systems have determined that GASP-2 shows similar inhibitory activity towards myostatin as GASP-1. By amino acid sequence, human GASP-2 is 55% identical to human GASP-1.

References:

1. Trexler, M. *et al.* (2001) Proc. Natl. Acad. Sci. USA **98**:3705.
2. Hill, J.J. *et al.* (2003) Mol. Endo. **17**:1144.
3. Trexler, M. *et al.* (2002) Biol. Chem. **383**:223.
4. Nagy, A. *et al.* (2003) Eur. Jour. Biochem. **270**:2101.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449