

DESCRIPTION

Species Reactivity	Human
Specificity	Detect human GASP-1/WFIKKNRP in ELISAs.
Source	Monoclonal Mouse IgG _{2B} Clone # 288504
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human GASP-1/WFIKKNRP Leu35-His576 Accession # Q8TEU8
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.

Human GASP-1/WFIKKNRP Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human GASP-1/WFIKKNRP Antibody (Catalog # MAB20702)
ELISA Detection	0.1-0.4 µg/mL	Human GASP-1/WFIKKNRP Biotinylated Antibody (Catalog # BAF2070)
Standard		Recombinant Human GASP-1/WFIKKNRP (Catalog # 2070-GS)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <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

Growth and differentiation factor-associated serum protein-1 (GASP-1) was isolated in a screen to identify proteins in mice that copurify with GDF-8/Myostatin, a potent negative regulator of skeletal muscle mass (1). The GASP-1 cDNA encodes a 571 amino acid (aa) protein that contains a 29 aa signal sequence and is comprised of many conserved domains: WAP, follistatin/Kazal, immunoglobulin, two tandem Kunitz, and netrin (1). Two related human proteins which contain the same domain structure are called WFIKKN (based on the presence and order of these conserved domains) and WFIKKNRP (WFIKKN-related protein) (2). Mouse GASP-1 is homologous to human WFIKKNRP and mouse GASP-2 to human WFIKKN. Human GASP-1 is the same protein as WFIKKNRP. WAP, follistatin, Kazal and netrin domains are all implicated in protease inhibition, and these proteins may be multivalent protease inhibitors (3). GASP-1 and -2 show distinct expression patterns both in the developing fetus and the adult. In the developing fetus, GASP-1 expression is highest in the brain, skeletal muscle, thymus and kidney while GASP-2 is abundant in the lung, skeletal muscle and liver (4). In the adult, GASP-1 is primarily expressed in the ovary, testis, and brain while GASP-2 is in the pancreas, liver, and thymus (4). GASP-1 inhibits myostatin and the highly related protein, GDF-11, but not Activin or TGF-β *in vitro* (1). In addition, GASP-1 binds directly but independently to both mature myostatin and the myostatin propeptide (1). By amino acid sequence, human GASP-1 is 90% and 55% identical to mouse GASP-1 and human GASP-2, respectively.

References:

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