

GP49 (A-20): sc-17078

BACKGROUND

GP49 is an Ig superfamily-related, type I transmembrane glycoprotein. GP49 is expressed on the surface of myeloid cells involved in innate and adaptive immunity, such as mast cells, NK (natural killer) cells and macrophages. The two major subtypes, GP49A and GP49B, are encoded by different genes that share approximately 95% homology. GP49B is an inhibitory isoform that contains two C-terminal immunoreceptor tyrosine-based inhibitory motifs (ITIMs). GP49A is a non-inhibitory isoform that has a shorter cytoplasmic domain, which does not have ITIMs or tyrosine-based signaling motifs. GP49A may coordinate into a homodimer and induce calcium mobilization, eicosanoid production and cytokine gene transcription. HM18 is a human Fc receptor for IgA and NK cell inhibitory receptors that is believed to be a homolog to murine GP49B.

REFERENCES

1. Arm, J.P., et al. 1997. Molecular identification of a novel family of human Ig superfamily members that possess immunoreceptor tyrosine-based inhibition motifs and homology to the mouse GP49B1 inhibitory receptor. *J. Immunol.* 159: 2342-2349.
2. McCormick, M.J., et al. 1999. The GP49A gene has extensive sequence conservation with the GP49B gene and provides GP49A protein, a unique member of a large family of activating and inhibitory receptors of the immunoglobulin superfamily. *Immunogenetics* 50: 286-294.
3. Wagtmann, N. 1999. GP49: an Ig-like receptor with inhibitory properties on mast cells and natural killer cells. *Curr. Top. Microbiol. Immunol.* 244: 107-113.
4. Subramanian, A.B., et al. 2000. Role of exogenous inositol and phosphatidylinositol in glycosylphosphatidylinositol anchor synthesis of GP49 by *Giardia lamblia*. *Biochim. Biophys. Acta* 1483: 69-80.
5. Wang, L.L., et al. 2000. Inducible expression of the GP49B inhibitory receptor on NK cells. *J. Immunol.* 164: 5215-5220.
6. Lee, K.H., et al. 2000. Stimulatory function of GP49A, a murine Ig-like receptor, in rat basophilic leukemia cells. *J. Immunol.* 165: 4970-4977.

CHROMOSOMAL LOCATION

Genetic locus: Gp49a/Lilrb4 (mouse) mapping to 10 B3.

SOURCE

GP49 (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GP49 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17078 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GP49 (A-20) is recommended for detection of GP49A and GP49B of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **GP49 (H1.1): sc-53584**, our highly recommended monoclonal alternative to GP49 (A-20).