



# GP49 (H1.1): sc-53584

## 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., Nwankwo, C. and Austen, K.F. 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., Castells, M.C., Austen, K.F. and Katz, H.R. 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., Navarro, S., Carrasco, R.A., Marti, M. and Das, S. 2000. Role of exogenous inositol and phosphatidylinositol in glycosyl-phosphatidylinositol anchor synthesis of GP49 by *Giardia lamblia*. *Biochim. Biophys. Acta* 1483: 69-80.
5. Lee, K.H., Ono, M., Inui, M., Yuasa, T. and Takai, T. 2000. Stimulatory function of GP49A, a murine Ig-like receptor, in rat basophilic leukemia cells. *J. Immunol.* 165: 4970-4977.
6. Wang, L.L., Chu, D.T., Dokun, A.O. and Yokoyama, W.M. 2000. Inducible expression of the GP49B inhibitory receptor on NK cells. *J. Immunol.* 164: 5215-5220.

## CHROMOSOMAL LOCATION

Genetic locus: Lilrb4 (mouse) mapping to 10 B4.

## SOURCE

GP49 (H1.1) is a Armenian hamster monoclonal antibody raised against gp49B-Fc of mouse origin.

## STORAGE

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

## PRODUCT

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

GP49 (H1.1) is available conjugated to agarose (sc-53584 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53584 HRP), 200 µg/ml, for IHC(P) and ELISA; to either phycoerythrin (sc-53584 PE), fluorescein (sc-53584 FITC), Alexa Fluor® 488 (sc-53584 AF488), Alexa Fluor® 546 (sc-53584 AF546), Alexa Fluor® 594 (sc-53584 AF594) or Alexa Fluor® 647 (sc-53584 AF647), 200 µg/ml, for IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53584 AF680) or Alexa Fluor® 790 (sc-53584 AF790), 200 µg/ml, for IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

GP49 (H1.1) is recommended for detection of GP49 of mouse origin by flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.