

SC (C-20): sc-20487

BACKGROUND

Polymeric IgA and IgM is produced and secreted by B cells in the lamina propria, which is beneath the mucosal lining of polarized epithelial cells. Polymeric immunoglobulin receptors, also designated plgRs, are expressed on the basolateral surface of glandular epithelia and mediate transcellular transport of secretory immunoglobulin polymers across the epithelium. plgR associates with secreted dimeric IgA and IgM molecules. During transcellular transport of these Ig polymers, plgR undergoes proteolytic cleavage to generate a fragment called secretory component (SC), polymeric immunoglobulin receptor or poly-Ig receptor. When immunoglobulin polymers associate with SC, they become resistant to enzymatic degradation during the transcytosis process. SC and the plgR are crucial for proper mucosal immunity, where they represent a molecular chaperone for polymeric Igs to remain intact and enter into body fluids. The human SC (plgR) gene maps to chromosome 1q32.1 and encodes a 764 amino acid protein. The receptor contains five units with homology to the variable (V) units of immunoglobulins and a transmembrane region that shares homology to certain immunoglobulin variable regions.

REFERENCES

1. Kühn, L.C. and Kraehenbuhl, J.P. 1980. Role of secretory component, a secreted of IgA dimer by epithelial cells. *J. Biol. Chem.* 254: 11072-11081.
2. Nagura, H., et al. 1981. Secretory component in immunoglobulin deficiency: and immunoelectron microscopic study of intestinal epithelium. *Scand. J. Immunol.* 12: 359-363.
3. Hood, L., et al. 1985. T cell antigen receptors and the immunoglobulin supergene family. *Cell* 40: 225-229.
4. Aroeti, B., et al. 1992. Polymeric immunoglobulin receptor. *Int. Rev. Cytol.* 137: 157-168.

CHROMOSOMAL LOCATION

Genetic locus: PIGR (human) mapping to 1q32.1; Pigr (mouse) mapping to 1 E4.

SOURCE

SC (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SC of human 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-20487 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

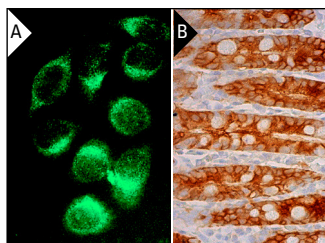
SC (C-20) is recommended for detection of SC of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SC siRNA (h): sc-42964, SC siRNA (m): sc-42965, SC shRNA Plasmid (h): sc-42964-SH, SC shRNA Plasmid (m): sc-42965-SH, SC shRNA (h) Lentiviral Particles: sc-42964-V and SC shRNA (m) Lentiviral Particles: sc-42965-V.

Molecular Weight of SC: 80 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, IMR-32 cell lysate: sc-2409 or DU 145 cell lysate: sc-2268.

DATA



SC (C-20): sc-20487. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing membrane and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Ai, J., et al. 2011. The role of polymeric immunoglobulin receptor in inflammation-induced tumor metastasis of human hepatocellular carcinoma. *J. Natl. Cancer Inst.* 103: 1696-1712.

PROTOCOLS

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