

SC (H-300): sc-20656

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

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2. Nagura, H., Nakane, P.K. and Brown, W.R. 1981. Secretory component in immunoglobulin deficiency: and immunoelectron microscopic study of intestinal epithelium. *Scand. J. Immunol.* 12: 359-363.
3. Hood, L., Kronenberg, M. and Hunkapiller, T. 1985. T cell antigen receptors and the immunoglobulin supergene family. *Cell* 40: 225-229.
4. Aroeti, B., Casanova, J., Okamoto, C., Cardone, M., Pollack, A., Tang, K. and Mostov, K. 1992. Polymeric immunoglobulin receptor. *Int. Rev. Cytol.* 137: 157-168.
5. Krajci, P., Kvale, D., Tasken, K. and Brandtzaeg, P. 1992. Molecular cloning and exon-intron mapping of the gene encoding human transmembrane secretory component (the poly-Ig receptor). *Eur. J. Immunol.* 22: 2309-2315.
6. De Groot, N., Van Kuik-Romeijn, P., Lee, S.H. and De Boer, H.A. 2000. Increased immunoglobulin A levels in milk by overexpressing the murine polymeric immunoglobulin receptor gene in the mammary gland epithelial cells of transgenic mice. *Immunology* 101: 218-224.

CHROMOSOMAL LOCATION

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

SOURCE

SC (H-300) is a rabbit polyclonal antibody raised against amino acids 465-764 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.

APPLICATIONS

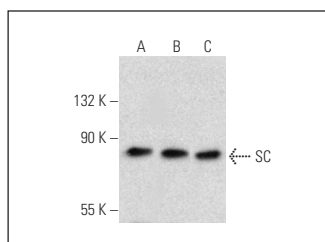
SC (H-300) is recommended for detection of SC of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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.

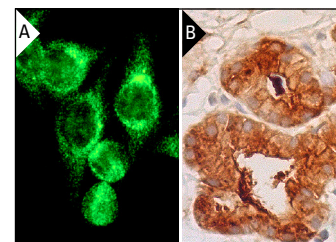
Molecular Weight of SC: 80 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, SW480 cell lysate: sc-2219 or AN3 CA cell lysate: sc-24662.

DATA



SC (H-300): sc-20656. Western blot analysis of SC expression in HeLa (A), AN3 CA (B) and SW480 (C) whole cell lysates.



SC (H-300): sc-20656. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human nasopharynx tissue showing cytoplasmic staining of glandular cells (B).

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 **SC (C-2): sc-374343**, our highly recommended monoclonal alternative to SC (H-300).