

# FcRn (H-274): sc-66892

## BACKGROUND

FcRn present in the intestinal epithelium of neonatal mice and rats mediates the selective uptake of immunoglobulin G (IgG) in mothers' milk, thereby helping newborn animals to acquire passive immunity. FcRn (also designated FCGRT, Brambell receptor, FcRn  $\alpha$  chain, IgG Gc receptor and neonatal Fc receptor) is comprised of a heavy chain and  $\beta$ -2-Microglobulin. FcRn heavy chain shows approximately 35% amino acid identity to an MHC class I molecule. FcRn localizes in endosomes of vascular endothelial cells and selectively recycles IgG to the cell surface, thus protecting IgG from lysosomal catabolism. This protection mechanism is a major constituent for ensuring IgG are the longest lived of all plasma proteins.

## REFERENCES

1. Detmer, S.A., et al. 2002. IgG transcytosis and recycling by FcRn expressed in MDCK cells reveals ligand-induced redistribution. *EMBO J.* 21: 5953.
2. Claypool, S.M., et al. 2002. Functional reconstitution of human FcRn in Madin-Darby canine kidney cells requires coexpressed human  $\beta$ -2-microglobulin. *J. Biol. Chem.* 277: 28038-28050.
3. Praetor, A., et al. 2002. Membrane-anchored human FcRn can oligomerize in the absence of IgG. *J. Mol. Biol.* 321: 277-284.
4. Zhou, J., et al. 2003. Generation of mutated variants of the human form of the MHC class I-related receptor, FcRn, with increased affinity for mouse immunoglobulin G. *J. Mol. Biol.* 332: 901-913.
5. Ober, R.J., et al. 2004. Visualizing the site and dynamics of IgG salvage by the MHC class I-related receptor, FcRn. *J. Immunol.* 172: 2021-2029.
6. Ober, R.J., et al. 2004. Exocytosis of IgG as mediated by the receptor, FcRn: an analysis at the single-molecule level. *Proc. Natl. Acad. Sci. USA* 101: 11076-11081.

## CHROMOSOMAL LOCATION

Genetic locus: FCGRT (human) mapping to 19q13.33; Fcgrt (mouse) mapping to 7 B4.

## SOURCE

FcRn (H-274) is a rabbit polyclonal antibody raised against amino acids 24-297 mapping within an N-terminal extracellular domain of FcRn of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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

FcRn (H-274) is recommended for detection of FcRn 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  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for FcRn siRNA (h): sc-45632, FcRn siRNA (m): sc-45633, FcRn shRNA Plasmid (h): sc-45632-SH, FcRn shRNA Plasmid (m): sc-45633-SH, FcRn shRNA (h) Lentiviral Particles: sc-45632-V and FcRn shRNA (m) Lentiviral Particles: sc-45633-V.

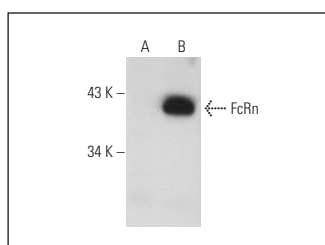
Molecular Weight of FcRn: 46 kDa.

Positive Controls: FcRn (h): 293T Lysate: sc-159778, JEG-3 whole cell lysate or ES-2 cell lysate: sc-24674.

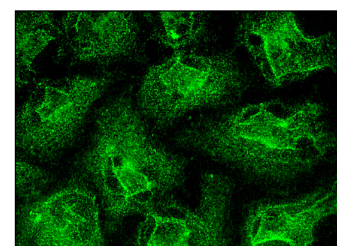
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



FcRn (H-274): sc-66892. Western blot analysis of FcRn expression in non-transfected: sc-117752 (A) and human FcRn transfected: sc-159778 (B) 293T whole cell lysates.



FcRn (H-274): sc-66892. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## SELECT PRODUCT CITATIONS

1. Powner, M.B., et al. 2014. Expression of neonatal Fc receptor in the eye. *Invest. Ophthalmol. Vis. Sci.* 55: 1607-1615.


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Try **FcRn (B-8): sc-271745** or **FcRn (H-4): sc-166413**, our highly recommended monoclonal alternatives to FcRn (H-274). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **FcRn (B-8): sc-271745**.