

FcRn (H-4): sc-166413

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 α chain, IgG Gc receptor and neonatal Fc receptor) is comprised of a heavy chain and β -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. Claypool, S.M., et al. 2002. Functional reconstitution of human FcRn in Madin-Darby canine kidney cells requires coexpressed human β -2-Microglobulin. *J. Biol. Chem.* 277: 28038-28050.
2. Praetor, A., et al. 2002. Membrane-anchored human FcRn can oligomerize in the absence of IgG. *J. Mol. Biol.* 321: 277-284.
3. Detmer, S.A., et al. 2002. IgG transcytosis and recycling by FcRn expressed in MDCK cells reveals ligand-induced redistribution. *EMBO J.* 21: 5953.
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.

CHROMOSOMAL LOCATION

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

SOURCE

FcRn (H-4) is a mouse monoclonal antibody raised against amino acids 22-276 mapping within an N-terminal extracellular domain of FcRn of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG γ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FcRn (H-4) is recommended for detection of FcRn of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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.

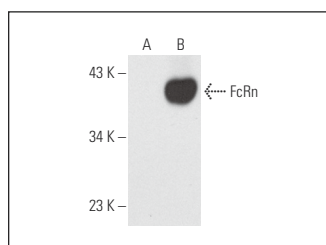
Molecular Weight of FcRn: 46 kDa.

Positive Controls: FcRn (m): 293T Lysate: sc-126843.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



FcRn (H-4): sc-166413. Western blot analysis of FcRn expression in non-transfected: sc-117752 (A) and mouse FcRn transfected: sc-126843 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kinugasa, S., et al. 2011. Selective albuminuria via podocyte albumin transport in puromycin nephrotic rats is attenuated by an inhibitor of NADPH oxidase. *Kidney Int.* 80: 1328-1338.
2. Powner, M.B., et al. 2014. Expression of neonatal Fc receptor in the eye. *Invest. Ophthalmol. Vis. Sci.* 55: 1607-1615.
3. Qin, J.J., et al. 2016. Oral delivery of anti-MDM2 inhibitor SP141-loaded FcRn-targeted nanoparticles to treat breast cancer and metastasis. *J. Control. Release* 237: 101-114.

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 for detailed protocols and support products.



See **FcRn (B-8): sc-271745** for FcRn antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.