

## FcRn (N-16): sc-46330

### 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

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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.
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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.
7. Zhou, J., et al. 2005. Conferring the binding properties of the mouse MHC class I-related receptor, FcRn, onto the human ortholog by sequential rounds of site-directed mutagenesis. *J. Mol. Biol.* 345: 1071-1081.
8. Getman, K.E., et al. 2005. Pharmacokinetic effects of 4C9, an anti-FcRn antibody, in rats: implications for the use of FcRn inhibitors for the treatment of humoral autoimmune and alloimmune conditions. *J. Pharm. Sci.* 94: 718-729.
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### CHROMOSOMAL LOCATION

Genetic locus: FCGRT (human) mapping to 19q13.3; Fcgrt (mouse) mapping to 7 B4.

### SOURCE

FcRn (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of FcRn of mouse origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-46330 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

FcRn (N-16) is recommended for detection of FcRn of mouse, rat and, to a lesser extent, human 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 and FcRn siRNA (m): sc-45633.

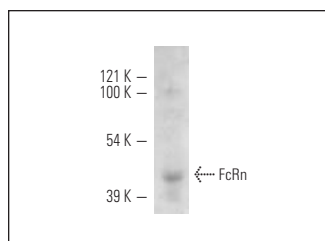
Molecular Weight of FcRn: 46 kDa.

Positive Controls: rat skeletal muscle tissue.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### DATA



FcRn (N-16): sc-46330. Western blot analysis of FcRn expression in rat skeletal muscle tissue extract.

### 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.