

**Certificate of Analysis**

**Product:** Dog FcRn, biotinylated

**Manufactured** by Immunitrack ApS, Denmark

**LOT no:** ID023

**Code:** ITF11-400

**Size:** 2 vials of ITF11-200 (200 µg aliquote/vial)

**Physical State:** Liquid (Sterile Filtered)

**FcRn Concentration:** 1mg/ml (by ABS280 and SDS-PAGE gel densitometry using a BSA standard (2, 1, and 0,5 mg/ml))

**Clone:**

- Dog FcRn subunit: 3081-B1
- Dog B2m subunit: 3122-B1

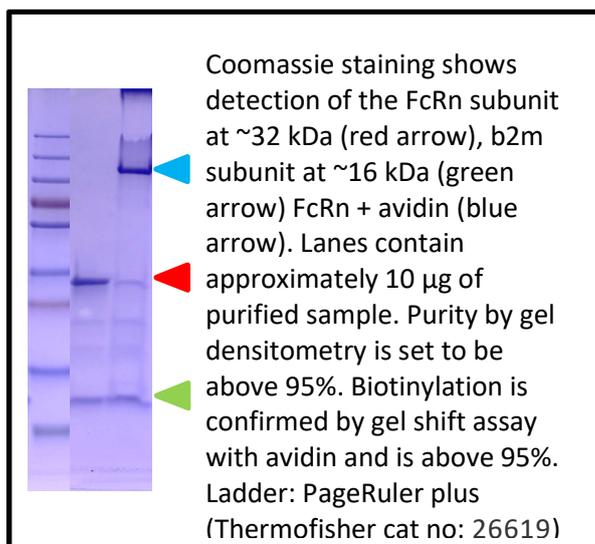
**Buffer:** PBS pH 8,5, 50% glycerol

**Preservatives:** None

**Stabilizer:** None

**Storage Conditions:** Store vial at -20° C prior to opening. Dilute only prior to immediate use. Expiration date is one (1) year from date of opening.

**Background Information:** The neonatal Fc receptor (FcRn) binds IgG and albumin in a pH dependent way, showing strong (IgG) and intermediate (albumin) interaction at low pH and no interaction at physiological pH. Thus, upon cellular internalization and endosome acidification, the FcRn binds internalized IgG and albumin and returns them to the cell surface, where they are released into the neutral extracellular environment. In effect, the FcRn rescues IgG and albumin from lysosomal degradation thereby explaining the unusually long half-life of these proteins compared to other plasma proteins. Exploiting FcRn mediated rescue has emerged as a potentially generalizable approach to improving the pharmacokinetics of therapeutics. The ability to measure FcRn interactions is a prerequisite for the study and eventually for the manipulation of FcRn mediated rescue.





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### Description

FcRn resembles class I major histocompatibility complex in structure, and is composed of a transmembrane heavy chain and an invariant  $\beta$ 2 microglobulin. The FcRn from Immunitrack has had two unpaired cysteines mutated to serines, this does not affect FcRn binding. The C-terminus of the FcRn heavy chain is linked to a short biotinylation signal peptide to enable enzymatic biotinylation. All FcRn molecules are purified on IgG columns to ensure maximal activity.

**Application note** This FcRn is suitable for FcRn-Fc and FcRn-DomIII binding assays. Commonly used in vitro methods for analysis of FcRn binding include ELISA, SPR and bead-based proximity assays.

**User restriction:** Not for clinical use. Reagents are for research purpose only –not for use in diagnostic procedures or test on human.

### Publications where the FcRn have been used

- Materno-fetal transfer of preproinsulin through the neonatal Fc receptor prevents autoimmune diabetes. *Diabetes*. 2015 Apr 27.
- Regulation of immune responses to protein therapeutics by transplacental induction of T cell tolerance. *Sci Transl Med*. 2015 Feb 18;7(275)
- Stabilisation of the Fc fragment of human IgG1 by engineered intradomain disulfide bonds. *PLoS One*. 2012;7(1):e30083. PMID: 22272277
- Ligand binding and antigenic properties of a human neonatal Fc receptor with mutation of two unpaired cysteine residues. *FEBS J*. 2008 Aug;275(16):4097-110. PMID: 18637944
- A strategy for bacterial production of a soluble functional human neonatal Fc receptor. *J Immunol Methods*. 2008 Feb 29;331(1-2):39-49. PMID: 18155020