

Product Data Sheet

anti-human Fc receptor (FcRn) monoclonal antibody

Product information

Catalog Number:	GM-0808
Clone:	ADM31
Description:	purified monoclonal mouse antibody
Specificity:	anti-human FcRn
Isotype:	IgG2b
Purification:	Protein A
Storage:	short term: 2°C - 8°C; long term: -20°C (avoid repeated freezing and thawing)
Buffer:	phosphate buffered saline, pH 7.2
Immunogen:	immunisation with spleen cells from transgenic mice
Selection:	based on recognition of the complete native protein expressed on transfected mammalian cells

Working dilutions

Flow cytometry:	1.2 µg/10 ⁶ cells
ELISA:	1:200 - 1:400
CELISA:	1:200 - 1:400

For each application a titration should be performed to determine the optimal concentration.

Specificity testing by flow cytometry and by Spectral Confocal Microscopy

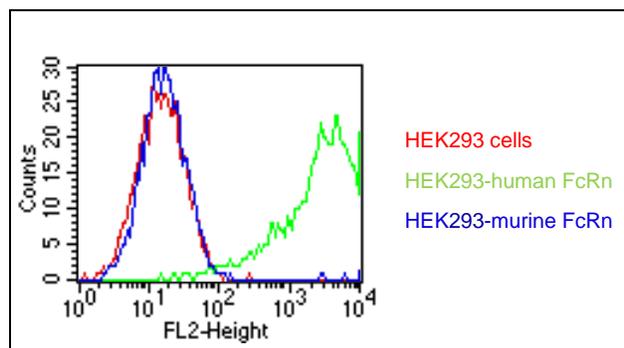


Fig.1: GM-0808. HEK293 cells were stably transfected with an expression vector encoding either human FcRn (green curve) or murine FcRn (blue curve). Untransfected HEK293 cells were used as a negative control (red curve). Binding of ADM31 was detected with a PE conjugated secondary antibody. A positive signal was obtained only with human FcRn transfected cells.

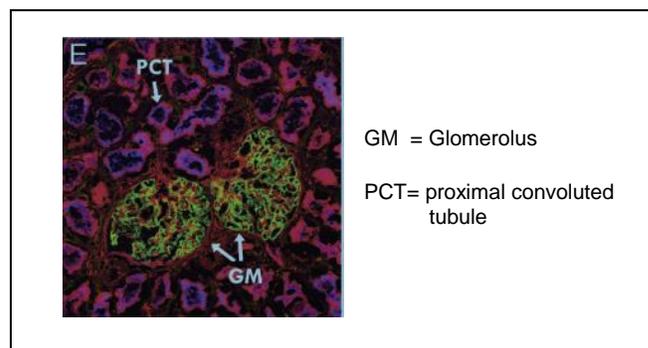


Fig.2: Spectral Confocal Microscopy of hFcRn in human kidney tissue. Binding of ADM31 was visualized with Alexa Fluor 647 conjugated secondary antibody (red). The tissue was co-stained for proximal convoluted tubule (blue channel) and podocytes (green channel).

Gregory J. Christianson et al. *The Jackson Laboratory; Bar Harbor, ME USA (Reference #4)*

For research use only. Not for diagnostic or therapeutic use.

CGE analysis of ADM31

The antibody was purified by protein A affinity chromatography from cell culture supernatants and verified by CGE (Fig.2).

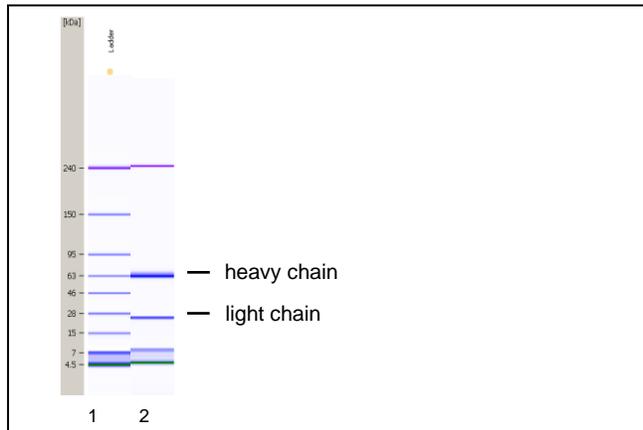


Fig.2: CGE analysis of purified ADM31 monoclonal antibody. Lane 1: molecular weight marker, Lane 2: 2 µg of purified ADM31 antibody. Proteins were separated by CGE (capillary gel electrophoresis, Agilent 2100 Bioanalyzer). Internal control bands (240 kDa / 7 kDa / 4,5 kDa).

Background

The neonatal Fc receptor (FcRn) belongs to the major histocompatibility complex class I-related receptor family. Receptors for the Fc domain of immunoglobulins play an important role in immune defense by transporting immunoglobulins across epithelial tissues to their main sites of action (1,2). FcRn was first discovered in rodents as a unique receptor capable of transporting IgG from mother's milk across the epithelium of newborn rodent's gut into the newborn's bloodstream (1). In humans, during the very first stages of life, it is found in the placenta. The ability of FcRn to bind IgGs and transport them within and across cells mediates the passive transfer of IgG from mother to offspring both before and after birth (2). In the adult, FcRn regulates the persistence of both IgG and albumin in the serum as well as the movement of IgG within and across cells. In addition, FcRn is expressed in tissues such as liver, mammary gland, and adult intestine but also by hematopoietic cells. As such, FcRn plays an important role in immune surveillance throughout adult life (3).

References

1. **Jones EA and Waldman TA (1972).** The mechanism of intestinal uptake and transcellular transport of IgG in the neonatal rat. *J Clin Invest*, 51, 2916
2. **Raghavan M, Bjorkman PJ (1996).** Fc receptors and their interactions with immunoglobulins. *Annu Rev Cell Dev Biol* 12:181-220
3. **Ghetie V, Ward ES (2000).** Multiple roles for the major histocompatibility complex class I- related receptor FcRn. *Annu Rev Immunol.* 18:739-66.
4. **Christianson GJ, Sun VZ, Akilesh S, Pesavento E, Proetzel G and Roopenian DC (2012).** Monoclonal antibodies directed against human FcRn and their applications. *MAbs* Mar 1;4(2)