PRODUCT DATA SHEET
ANTI-HUMAN AND MOUSE FC RECEPTOR (FCRN) MONOCLONAL ANTIBODY

PRODUCT INFORMATION

Catalog Number:	GM-0809	**Clone:**	DVN24
Description:	purified monoclonal mouse antibody	**Specificity:**	anti-human and anti-mouse FcRn*
Isotype:	IgG2a/kappa	**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:	immunization with spleen cells from transgenic mice	**Selection:**	based on recognition of the complete native protein expressed on transfected mammalian cells

* DVN24 generally shows weaker reactivity towards mouse than human FcRn (Derry C. Roopenian, unpublished data)

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

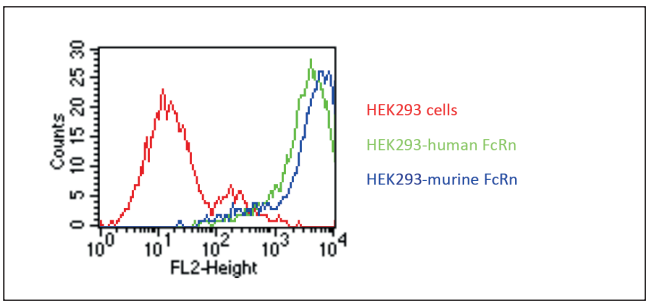

Fig.1: GM-0809. HEK293 cells were transfected with an expression vector encoding either human FcRn (green curve) or murine FcRn (blue curve). Untransfected HEK293 cells were used as a negative control (red curve). Binding of DVN24 was detected with a PE conjugated secondary antibody. A positive signal was obtained with human and with murine FcRn transfected cells.

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CGE ANALYSIS OF DVN24

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

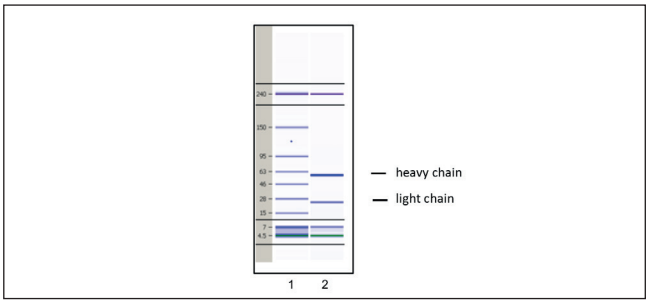

Fig. 2: CGE analysis of purified DVN24 monoclonal antibody.
Lane 1: molecular weight marker, Lane 2: 2 µg of purified DVN24 antibody. Proteins were separated by CGE (capillary gel electrophoresis, Agilent 2100 Bioanalyzer). Internal control bands (240 kDa / 7 kDa / 4,5 kDa).

BACKGROUND

The neonatal Fc receptor 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 immunglobulins across epithelial tissues to their main sites of action (1, 2). The neonatal Fc receptor 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)