ROCKLAND

ANTIBODIES ONLINE

Highly Characterized FcRn Antibody Clones

Anti-FcRn antibodies are essential tools for understanding the biological function of FcRn. FcRn influences IgG serum levels and tissue distribution at all stages of life and rescues IgG from degradation, transporting it to the cell surface for release, making it uniquely responsible for the extended serum half-life of IgG antibodies and their ability to transport across cellular barriers. FcRn also controls serum albumin homeostasis by an analogous trafficking mechanism as for IgG.

Manufactured by the experts at Rockland and available exclusively through Rockland and antibodies-online, these FcRn antibodies are sourced from clones highly characterized by The Jackson Laboratory. The clones have shown to be incisive reagents capable of unlocking a deeper understanding of tissue and cellular expression patterns of hFcRn, facilitating a better understanding of FcRn biology and assisting in the development of improved therapeutics.

Study Tissue Expression Patterns:

Readily detect hFcRn by flow cytometry on tissue sections, which makes them valuable tools for defining the sites of hFcRn expression

Selectively Block IgG or Serum Albumin *In Vitro*:

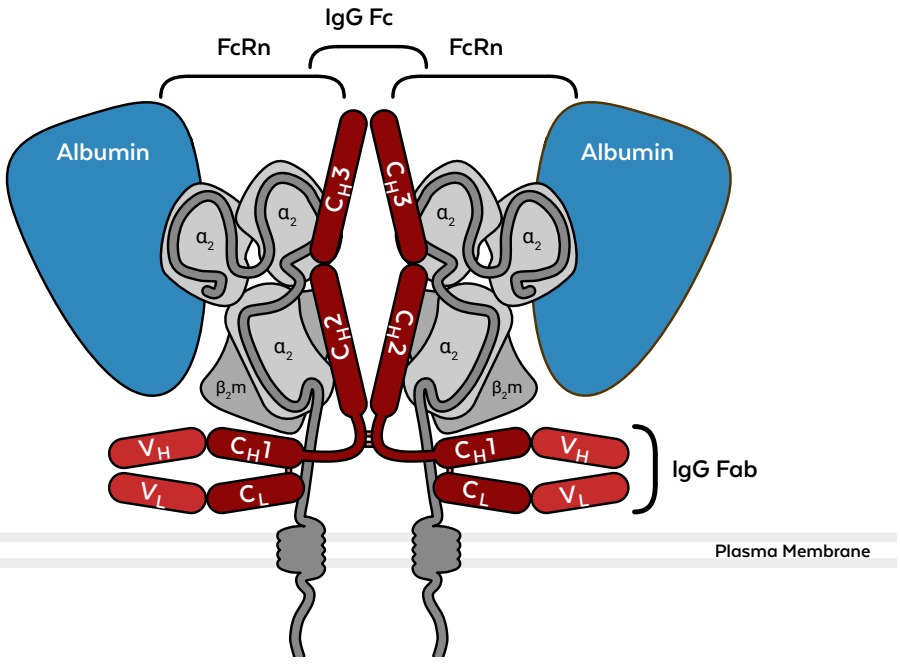
Differentially block hIgG or human serum albumin binding for distinct binding sites in antibody-based drug or albumin-conjugated therapeutic development

Inhibit FcRn Function:

Utilize anti-hFcRn mAbs to control the serum persistence of human IgG in research settings

FcRn Ligand Binding Sites

Binding of albumin (blue) and IgG (red) to the FcRn-β2m heterodimer (gray) based on the PDB structure 4N0U. Under mildly acidic conditions, glutamate and aspartate residues in the CH2 and CH3 domains of an IgG Fc fragment form hydrogen bonds with histidine residues in the α2 domains of two FcRn molecules. Albumin binds via its DIII and DI domains at a 1:1 stoichiometry to FcRn in a different region. Antibody blocking assays suggest that anti-FcRn antibody clone ADM31 binds to the FcRn-β2m heterodimer within the albumin binding region, whereas clone DVN24 blocks IgG binding.



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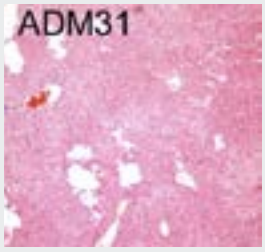
Propelling Therapeutic Discoveries

Because of its interaction with IgG and albumin, FcRn has become a high-interest therapeutic target. For one, it can be exploited to extend the half-life of therapeutic antibodies and IgG- or albumin-fused proteins. Mutations of amino acids influencing the pH dependency of IgG and albumin binding can be mutated to achieve the desired effect. The binding of IgG to FcRn also offers the possibility to enhance their clearance. Autoantibodies that recognize self-antigens are the cause of certain autoimmune diseases. By engineering competing antibodies that bind tighter to FcRn and effectively block, the receptor increases clearance of the disease-causing antibodies. Lastly, the FcRn enhances the transport of therapeutic IgG fc or albumin fusion-protein across mucosal membranes, thus facilitating distribution and improving their absorption.

Available FcRn Clones



ADM31 in Liver H&E Staining

Antibody- or peptide-mediated disruption of the human FcRn–albumin interactions decreases chemical hepatotoxicity. Liver H&E staining from PBS-treated FCGRTTG mice and FCGRTTG mice that received ADM31 16 h before APAP administration
Source: PMID28330995

Clone	ADM31
Isotype	IgG2b
Specificity	Human
Applications	FC, IF, ELISA
hIgG	+
HSA	-
mIgG	+
Rockland Item No.	200-301-MX7
antibodies-online Item No.	ABIN1774762

Clone	DVN24
Isotype	IgG2a
Specificity	Human & Mouse
Applications	FC, IF, ELISA
hIgG	-
HSA	+
mIgG	-
Rockland Item No.	200-301-MX8
antibodies-online Item No.	ABIN1774763

About The Jackson Laboratory

The Jackson Laboratory is an independent, nonprofit biomedical research institution with a National Cancer Institute-designated Cancer Center and nearly 3,000 employees in locations across the United States, Japan, and China. Its mission is to discover precise genomic solutions for disease and empower the global biomedical community in the shared quest to improve human health.