Mouse pIgR Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2800

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse pIgR in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 5% cross-reactivity with recombinant human pIgR is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse pIgR Lys19-Lys645 Accession # O70570
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

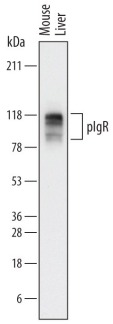
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.2 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Blockade of Receptor-ligand Interaction	In a functional ELISA, 0.5-2.5 µg/mL of this antibody will block 50% of the binding of 5 µg/mL of mouse IgM to immobilized Recombinant Mouse pIgR (Catalog # 2800-PG) coated at 5 µg/mL (100 µL/well). At 50 µg/mL, this antibody will block >90% of the binding.	

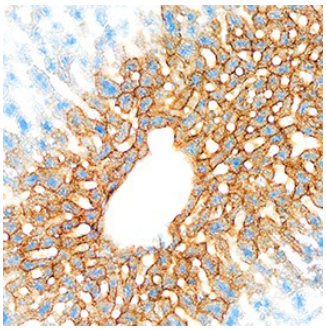
DATA

Western Blot



Detection of Mouse pIgR by Western Blot. Western blot shows lysates of mouse liver tissue. PVDF membrane was probed with 0.2 µg/mL of Goat Anti-Mouse pIgR Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2800) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). Specific bands were detected for pIgR at approximately 85 to 115 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry



pIgR in Mouse Liver. pIgR was detected in immersion fixed frozen sections of mouse liver using Goat Anti-Mouse pIgR Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2800) at 1 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to hepatocyte cytoplasm and plasma membrane. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

The mouse polymeric immunoglobulin receptor (p/gR; also known as membrane secretory component) is a 115 kDa type I transmembrane glycoprotein that is synthesized as a 771 amino acid (aa) precursor. It includes an 18 aa signal sequence, a 627 aa extracellular domain (ECD) (aa 19-645), a 23 aa transmembrane segment (aa 646-668), and a 143 aa cytoplasmic region (aa 669-771) (1-3). The ECD consists of five V-type Ig-like domains and a sixth non-Ig domain that connects to the transmembrane region. The ECD of mouse p/gR is 65%, 69%, 85%, 62% and 62% aa identical to the equivalent region in human, porcine, rat, bovine and canine, respectively. p/gR is expressed on secretory epithelial cells and serves as a carrier that transports IgA and IgM across epithelium (1, 2, 4). On the basolateral surface of epithelial cells, the receptor initially binds non-covalently to IgA via domains #1 and #5 of the p/gR. A rearrangement then occurs where a disulfide bond forms between domain #5 of the p/gR and an IgA heavy chain (2). This complex is then internalized and transcytosed to the apical surface. A soluble covalent complex called secretory IgA (SIgA) is generated by proteolytic cleavage of the complex in the sixth extracellular domain of p/gR and released into the lumen (5). This proteolytically generated p/gR fragment is referred to as secretory component (SC). Notably, in human, p/gR transcytoses constitutively, with or without ligand, creating both a bound and free, 78 kDa SC following cleavage (3). In mouse, this event would be expected to generate a 95 kDa fragment (1). The receptor component of the complex anchors the SIgA molecule to mucous (6), where it serves to protect mucous membranes that form a barrier between the interior of the body and the external environment (7).

References:

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