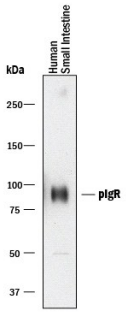


DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human plgR in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant mouse plgR is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human plgR (R&D Systems, Catalog # 2717-PG) Lys19-Arg638 Accession # CAA51532
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. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.	
	Recommended Concentration Sample
Western Blot	0.2 µg/mL See Below
Blockade of Receptor-ligand Interaction	In a functional ELISA, 1-5 µg/mL of this antibody will block 50% of the binding of 150 ng/mL of human IgM to immobilized Recombinant Human plgR (Catalog # 2717-PG) coated at 2 µg/mL (100 µL/well). At 40 µg/mL, this antibody will block >90% of the binding.

DATA	
<p>Western Blot</p> 	<p>Detection of Human plgR by Western Blot. Western blot shows lysates of human small intestine tissue. PVDF membrane was probed with 0.2 µg/mL of Goat Anti-Human plgR Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2717) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF017). A specific band was detected for plgR at approximately 85-100 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>

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. <ul style="list-style-type: none"> ● 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.

BACKGROUND

The human polymeric immunoglobulin receptor (pIgR; also known as membrane secretory component) is a 100 kDa type I transmembrane glycoprotein that is synthesized as a 764 amino acid (aa) precursor. It includes a signal sequence (aa 1-18), an extracellular region (aa 19-638), a transmembrane segment (aa 639-661), and a cytoplasmic domain (aa 662-764) (1-3). The extracellular region consists of five Ig-like domains and a sixth non-Ig domain that connects to the membrane region. pIgR is expressed on secretory epithelial cells of exocrine tissues. Immunoglobulin isotypes consist of two heavy (H) and two light (L) chains. For IgA and IgM, this H₂L₂ monomer can form larger polymers through association with a joining chain (J chain). The Fc regions of IgA and IgM have a carboxy-terminal extension called a secretory tailpiece that binds the J chain (4). pIgR functions as a carrier that transports IgA and IgM across epithelium (5). On the basolateral surface of epithelial cells, the receptor initially binds non-covalently to IgA via a docking site on the J chain. This initiates a rearrangement in which a disulfide bond forms between pIgR and an IgA heavy chain (2). The complexes are then internalized and transcytosed to the apical surface. A soluble covalent complex called secretory IgA (SIgA) is now generated by proteolytic cleavage of the sixth extracellular domain of pIgR and released into the lumen (6). This IgA-bound and proteolytically generated pIgR fragment is referred to as secretory component (SC). Notably, human pIgR transcytoses constitutively, with or without ligand, creating both bound and free, 78 kDa SC following cleavage (3). The extracellular region of pIgR is 64%, 65%, and 70% aa identical to the equivalent region in rat, mouse and porcine, respectively. The receptor component of the complex anchors the SIgA molecule to mucous (7). SIgA is a crucial component of the mucosal immune system serving to protect the large expanse of mucous membranes that form a barrier between the interior of the body and the external environment (8).

References:

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