Human pIgR Alexa Fluor® 750-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 825732

Catalog Number: FAB27171S

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human pIgR in ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 825732
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human pIgR Lys19-Arg638 Accession # P01833
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.*

Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

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 H_2L_2 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).

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