

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD97 in direct ELISAs and Western blots. In direct ELISAs, less than 2% cross-reactivity with recombinant mouse CD97v2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD97 Gln21-Gln398 Accession # NP_001775
Conjugate	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	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

CD97 is a 95-100 kDa member of a protein group known as the LNB-TM7 protein family that evolved from genes of the secretin receptor superfamily (1-3). Molecules in this family are unique hybrid structures consisting of EGF-like modules coupled to class B G-protein 7-transmembrane (TM) domains by a glycosylated (mucin) stalk. Human CD97 is synthesized as an 835 amino acid (aa) precursor that contains a 20 aa signal sequence, a 532 aa extracellular domain (ECD), a 238 aa "transmembrane" region that includes seven TM segments, and a 45 aa cytoplasmic tail (4). Within the 532 aa ECD, the first 236 aa contains five EGF-like domains, the C-terminal four of which bind calcium, and a juxtamembrane 296 aa RGD-containing mucin stalk (4, 5). The stalk is both glycosylated and proteolytically cleaved (at aa 530) to create a noncovalently linked 65-70 kDa glycosylated extracellular α -subunit and a 28 kDa 7-TM membrane-bound β -subunit (4). There are two known alternate splice forms in human. Isoform # 1 contains four EGF-like domains (domain # 1, 2, 3 and 5), while isoform # 2 contains three EGF-like domains (domain # 1, 2 and 5) (1, 4, 6). The ECD in isoform 1 is 60 kDa in size, while the ECD in isoform 2 is 55 kDa in size (native molecular weight). The five EGF-like domain region in human is 55% aa identical to that in mouse. Cells known to express CD97 include monocytes, macrophages, T cells, select B cells, dendritic cells and, potentially, vascular and visceral smooth muscle cells (1, 7). There are at least two ligands for CD97. One is chondroitin sulfate that binds only to the full-length (five domain) form of CD97. Binding is dependent on the presence of EGF-like domain # 4 (3). The second ligand for CD97 is CD55, a GPI-linked cell surface molecule with short consensus repeats that regulates complement activation on cell surfaces (1, 5, 7). CD97 EGF-like domains # 1 and 2 bind CD55 while domain # 5 stabilizes the CD97 molecule. The shortest CD97 isoform shows the strongest binding to CD55 (7, 8).

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