

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD97 in ELISAs and Western blots. In sandwich ELISAs, less than 0.3% cross-reactivity with recombinant mouse CD97 and recombinant human CD55 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
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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	0.1 µg/mL	Recombinant Human CD97 (Catalog # 2529-CD)
Flow Cytometry	2.5 µg/10 ⁶ cells	Human peripheral blood neutrophils
Human CD97 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human CD97 Antibody (Catalog # MAB25291)
ELISA Capture	2-8 µg/mL	Human CD97 Antibody (Catalog # MAB25291R)
ELISA Detection Standard	0.1-0.4 µg/mL	Human CD97 Biotinylated Antibody (Catalog # BAF2529) Recombinant Human CD97 (Catalog # 2529-CD)

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.
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

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).

References:

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