

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human CD97 in ELISAs. In sandwich immunoassays, no cross-reactivity or interference with recombinant human (rh) CD55, rhEGF, rhEMR2, or recombinant mouse CD97 is observed.                                                                                         |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2B</sub> Clone # 380905                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human CD97<br>Gln21-Gln398<br>Accession # NP_001775.2                                                                                                                                                                       |
| <b>Conjugate</b>          | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*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.

|                                                |                                                                        |
|------------------------------------------------|------------------------------------------------------------------------|
| <b>ELISA Capture (Matched Antibody Pair)</b>   | Optimal dilution of this antibody should be experimentally determined. |
| <b>ELISA Detection (Matched Antibody Pair)</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Neutralization</b>                          | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | 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 shares 55% aa sequence identity with 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).

## PRODUCT SPECIFIC NOTICES

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