

DESCRIPTION	
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human MFRP in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse (rm) Frizzled-1, -2, -3, -4, -7, -8, -9, recombinant human Frizzled-5, -6, -10, or rmMFRP is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>1</sub> Clone # 291204
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human MFRP Ser101-Pro579 Accession # Q9BY79
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS	
<b>Please Note:</b> 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
<b>Immunohistochemistry</b>	8-25 µg/mL	Immersion fixed paraffin-embedded sections of human brain (medulla)

PREPARATION AND STORAGE	
<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

MFRP (membrane-type frizzled-related protein) is a 65 kDa, type II transmembrane protein related to both Tollid proteases and frizzled-domain containing Wnt pathway proteins (1-4). Human MFRP is 579 amino acids (aa) in length (3, 5, 6). It contains a 69 aa cytoplasmic region, a 21 aa transmembrane segment, and a 489 aa extracellular domain (ECD). The ECD is characterized by the presence of two LDLR class A repeats, two CUB domains, and a C-terminal cysteine-rich/frizzled domain. The mRNA for MFRP is highly unusual in that it is dicistronic; that is, it contains two independent ORFs, one for MFRP and one for a functionally-related protein termed CTRP5/C1qTNF5 (4, 7). CTRP5 is a secreted, 25 kDa short-chain collagen that contains a C1q-type domain (6, 8). In prokaryotes, polycistronic transcripts exist that contain functionally-interactive molecules. This would also appear to be the case for MFRP and CTRP5. CTRP5 is suggested to bind to membrane MFRP via the C1q and CUB domains, respectively. This is positioned to generate a receptor-coreceptor complex that binds select Wnts such as Wnt-1 and/or Wnt-10b (4, 6, 7). MFRP has multiple documented mutations. In human, these are associated with hyperopia (severe farsightedness). The mutations result in premature truncations (3, 9). MFRP is expressed in retinal pigment epithelium, ciliary epithelium, and keratinocytes (4, 7, 10, 11). Human MFRP ECD is 70% aa identical to mouse ECD.

**References:**

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