

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human Amnionless in direct ELISAs and Western blots.                                                                                                                                                                                                                |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>1</sub> Clone # 260808                                                                                                                                                                                                                            |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant human Amnionless<br>Val20-Ala358<br>Accession # NP_112205                                                                                                                                                                   |
| <b>Conjugate</b>          | Alexa Fluor 405<br>Excitation Wavelength: 405 nm<br>Emission Wavelength: 421 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.

**Western Blot** 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

Amnionless (AMN) is an approximately 48 kDa type I transmembrane protein that is required for surface expression of the extracellular membrane-associated protein Cubilin (1-5). The two form a complex termed CUBAM (4, 5). The 453 amino acid (aa) human AMN precursor contains a 19 aa signal sequence, a 338 aa extracellular domain (ECD), a 21 aa transmembrane domain, and a 75 aa cytoplasmic domain. The ECD contains two potential N-glycosylation sites and a cysteine-rich vWFC domain. Two cytoplasmic consensus FxNPxP/F sequences for clathrin-coated pit targeting mediate endocytosis of compounds bound by Cubilin (3, 5). The ECD of human AMN shares 67%, 66%, 76%, and 78% aa identity with mouse, rat, canine and bovine AMN, respectively. AMN is present during gastrulation in the visceral endoderm and required for primitive streak formation during embryonic development in mouse (6). Transcription from an alternate start site in humans results in an isoform starting at M55 that may also function in development (7). AMN is highly expressed on polarized epithelia in the apical brush border membranes of small intestine and kidney proximal convoluted tubules (3-5, 7). Intestinal CUBAM is required for absorption of cobalamin (vitamin B12) when complexed with intrinsic factor (IF), and mutations of AMN or Cubilin cause Imersund-Grasbeck syndrome, also called megaloblastic anemia-1 (4, 5, 7). In the kidney, the CUBAM complex is thought to be important for reabsorption of proteins from filtrate, notably albumin and the molecules it carries (3, 8). Cubilin or CUBAM can be tightly associated with megalin, another endocytic receptor that contributes to stable expression of Cubilin, and to uptake of vitamin and lipoprotein complexes in the kidney and placenta (1, 9).

## PRODUCT SPECIFIC NOTICES

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