

Amnionless (K-17): sc-46727

BACKGROUND

Megaloblastic anemia 1 (MGA1), also referred to as MGA1 Norwegian type or Imlerslund-Gräsbeck syndrome (I-GS), is a hereditary, recessive disorder caused by defects in the AMN gene. Patients suffering from MGA1 have a selective malabsorption of vitamin B₁₂, causing impaired function of thymidine synthase which in turn interrupts DNA synthesis. Amnionless protein, encoded for by the AMN gene, is crucial for vitamin B₁₂ absorption. It modulates a BMP (bone morphogenetic protein) signaling pathway and is therefore important for trunk mesoderm production during development. Amnionless is a membrane protein that interacts with cubilin and is primarily expressed in colon, kidney and small intestine. Shorter isoforms can also be detected in thymus, testis and peripheral blood leukocytes.

REFERENCES

1. Tomihara-Newberger, C., et al. 1999. The AMN gene product is required in extraembryonic tissues for the generation of middle primitive streak derivatives. *Dev. Biol.* 204: 34-54.
2. Kalantry, S., et al. 2001. The Amnionless gene, essential for mouse gastrulation, encodes a visceral-endoderm-specific protein with an extracellular cysteine-rich domain. *Nat. Genet.* 27: 412-416.
3. Tanner, S.M., et al. 2003. Amnionless, essential for mouse gastrulation, is mutated in recessive hereditary megaloblastic anemia. *Nat. Genet.* 33: 426-429.
4. Strobe, S., et al. 2004. Mouse Amnionless, which is required for primitive streak assembly, mediates cell-surface localization and endocytic function of cubilin on visceral endoderm and kidney proximal tubules. *Development* 131: 4787-4795.
5. He, Q., et al. 2005. Amnionless function is required for cubilin brush-border expression and intrinsic factor-cobalamin (vitamin B₁₂) absorption *in vivo*. *Blood* 106:1447-1453.

CHROMOSOMAL LOCATION

Genetic locus: Amn (mouse) mapping to 12 F1.

SOURCE

Amnionless (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Amnionless of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46727 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Amnionless (K-17) is recommended for detection of Amnionless of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

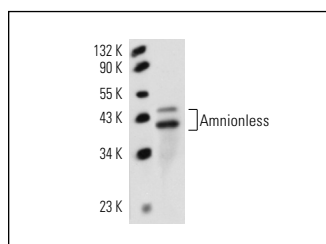
Suitable for use as control antibody for Amnionless siRNA (m): sc-60070, Amnionless shRNA Plasmid (m): sc-60070-SH and Amnionless shRNA (m) Lentiviral Particles: sc-60070-V.

Molecular Weight of extracellular domain Amnionless: 35 kDa.

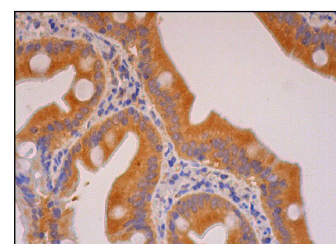
Molecular Weight of membrane-bound Amnionless: 45 kDa.

Positive Controls: mouse kidney extract: sc-2255.

DATA



Amnionless (K-17): sc-46727. Western blot analysis of Amnionless expression in mouse kidney tissue extract.



Amnionless (K-17): sc-46727. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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Try **Amnionless (C-10): sc-365384**, our highly recommended monoclonal alternative to Amnionless (K-17).