SANTA CRUZ BIOTECHNOLOGY, INC.

Amnionless (N-14): sc-46728

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Megaloblastic anemia 1 (MGA1), also referred to as MGA1 Norwegian type or Imerslund-Grasbeck 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 cubulin 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., Haub, O., Lee, H.G., Soares, V., Manova, K. and Lacy, E. 1998. 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., Manning, S., Haub, O., Tomihara-Newberger, C., Lee, H.G., Fangman, J., Disteche, C.M., Manova, K. and Lacy, E. 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., Aminoff, M., Wright, F.A., Liyanarachchi, S., Kuronen, M., Saarinen, A., Massika, O., Mandel, H., Broch, H. and de la Chapelle, A. 2003. Amnionless, essential for mouse gastrulation, is mutated in recessive hereditary megaloblastic anemia. Nat. Genet. 33: 426-429.
4. Strope, S., Rivi, R., Metzger, T., Manova, K. and Lacy, E. 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.

CHROMOSOMAL LOCATION

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

SOURCE

Amnionless (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus 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-46728 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 (N-14) is recommended for detection of Amnionless of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 Amnionless extracellular domain: 35 kDa.

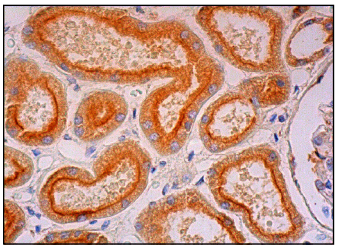
Molecular Weight of membrane-bound Amnionless: 45 kDa.

Positive Controls: mouse kidney extract: sc-2255.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Amnionless (N-14): sc-46728. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules.

RESEARCH USE

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