

ASPH (G-20): sc-33367

BACKGROUND

Aspartyl/asparaginyl β -hydroxylase (ASPH) is a widely-expressed type II membrane protein involved in calcium homeostasis. Located in the endoplasmic reticulum, ASPH specifically hydroxylates an Asp or Asn residue in the epidermal growth factor-like (EGF) domains of several proteins, using iron as a cofactor. The ASPH gene encodes 3 proteins, ASPH, Junctin, and Junctate (or Humbug), that differ significantly in their C-terminal domains. These ASPH gene products are expressed as five transcript variants that differ by their roles in calcium storage and release, hydroxylation capabilities, and tissue specificity. While all ASPH variants are expressed in skeletal muscle, only some are detected in heart, brain, pancreas, placenta, lung, liver, and kidney tissues. In the lumen of the endoplasmic reticulum, ASPH can be processed into two different forms.

REFERENCES

1. Koriath, F., et al. 1994. Cloning and characterization of the human gene encoding aspartyl β -hydroxylase. *Gene* 150: 395-399.
2. Dinchuk, J.E., et al. 2002. Absence of post-translational aspartyl β -hydroxylation of epidermal growth factor domains in mice leads to developmental defects and an increased incidence of intestinal neoplasia. *J. Biol. Chem.* 277: 12970-12977.
3. Franzini-Armstrong, C., et al. 2005. The assembly of calcium release units in cardiac muscle. *Ann. N.Y. Acad. Sci.* 1047: 76-85.

CHROMOSOMAL LOCATION

Genetic locus: ASPH (human) mapping to 8q12.3; Asph (mouse) mapping to 4 A1.

SOURCE

ASPH (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ASPH of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-33367 P, (100 μ g 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.

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.

APPLICATIONS

ASPH (G-20) is recommended for detection of ASPH of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

ASPH (G-20) is also recommended for detection of ASPH in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ASPH siRNA (h): sc-44989, ASPH siRNA (m): sc-44990, ASPH shRNA Plasmid (h): sc-44989-SH, ASPH shRNA Plasmid (m): sc-44990-SH, ASPH shRNA (h) Lentiviral Particles: sc-44989-V and ASPH shRNA (m) Lentiviral Particles: sc-44990-V.

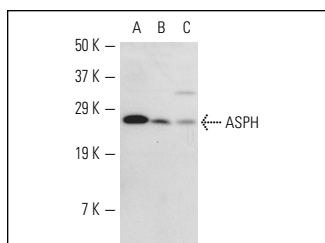
Molecular Weight of full-length ASPH: 90 kDa.

Molecular Weight of ASPH Junctin isoform: 26 kDa.

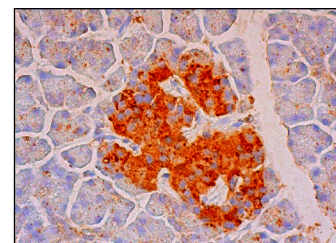
Molecular Weight of Junctate ASPH isoform: 32 kDa.

Positive Controls: A-10 cell lysate: sc-3806, C2C12 whole cell lysate: sc-364188 or L6 whole cell lysate: sc-364196.

DATA



ASPH (G-20): sc-33367. Western blot analysis of ASPH expression in A-10 (A), C2C12 (B) and L6 (C) whole cell lysates.



ASPH (G-20): sc-33367. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Liu, J., et al. 2007. Functional sarcoplasmic reticulum for calcium handling of human embryonic stem cell-derived cardiomyocytes: insights for driven maturation. *Stem Cells* 25: 3038-3044.
2. Liu, J., et al. 2009. Facilitated maturation of Ca^{2+} handling properties of human embryonic stem cell-derived cardiomyocytes by calsequestrin expression. *Am. J. Physiol., Cell Physiol.* 297: C152-C159.

MONOS
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Try **ASPH (A-10): sc-271391** or **ASPH (F-7): sc-365012**, our highly recommended monoclonal alternatives to ASPH (G-20).