

MATH-1 (H-6): sc-514145

BACKGROUND

The *Drosophila* atonal gene produces a protein with basic helix loop helix (bHLH) domains that plays an essential role in the development of the *Drosophila* nervous system. Mammalian atonal homolog 1 (MATH-1) is a helix-loop-helix (HLH) transcription factor that is structurally homologous to the product of the *Drosophila* proneural gene atonal. MATH-1, so known as Atoh1, Ath1 or HATH-1, is a 351 amino acid protein with an atonal-related basic HLH domain. In mice, expression of MATH-1 takes place by embryonic day 9.5 and initially localizes to the cranial ganglions and the dorsal part of the central nervous system. Prominent expression of MATH-1 is in the dorsal part of the central nervous system but becomes restricted to the external granular layer of the cerebellum by day 18 and is undetectable in the adult nervous system. It is suggested that MATH-1 may play a role in the differentiation of subsets of neural cells by activating E box-dependent transcription.

REFERENCES

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3. Kim, P., et al. 1997. XATH-1, a vertebrate homolog of *Drosophila* atonal, induces a neuronal differentiation within ectodermal progenitors. *Dev. Biol.* 187: 1-12.
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CHROMOSOMAL LOCATION

Genetic locus: ATOH1 (human) mapping to 4q22.2; Atoh1 (mouse) mapping to 6 C1.

RESEARCH USE

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

SOURCE

MATH-1 (H-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 52-77 near the N-terminus of MATH-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₃ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MATH-1 (H-6) is recommended for detection of MATH-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MATH-1 siRNA (h): sc-42070, MATH-1 siRNA (m): sc-42071, MATH-1 shRNA Plasmid (h): sc-42070-SH, MATH-1 shRNA Plasmid (m): sc-42071-SH, MATH-1 shRNA (h) Lentiviral Particles: sc-42070-V and MATH-1 shRNA (m) Lentiviral Particles: sc-42071-V.

Molecular Weight of MATH-1: 45 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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