

HRT1 (C-20): sc-16424

BACKGROUND

The LIN-12/Notch family of transmembrane receptors plays a central role in development by regulating cell fate and establishing boundaries of gene expression. Notch signaling activates the Hairy/Enhancer of split (HES) genes, which encode basic helix-loop-helix (bHLH) transcriptional repressors that are critical for directing embryonic patterning and development. The Hairy-related transcription factors (HRTs) comprise a subclass of bHLH proteins that exhibit structural similarity with the HES proteins and include HRT1, HRT2 and HRT3. The HRT family (also designated Hesn, Hey, CHF and Gridlock) contain a bHLH domain, an Orange domain and a novel YRPW domain, which is absent in HRT3. The Hairy-related genes are downstream targets for Notch signaling. HRT1 is expressed in the somitic mesoderm, central nervous system, kidney, heart, nasal epithelium and limb buds in murine embryos as well as in adult tissues. It has altered expression in many breast, lung and kidney tumors. Like HRT1, HRT2 and HRT3 are also expressed in developing somites, heart and nervous system.

REFERENCES

1. Simpson, P. 1994. The Notch receptors. Austin, TX: R.G. Landes Company.
2. Kokubo, H., et al. 1999. Identification and expression of a novel family of bHLH cDNAs related to *Drosophila* Hairy and Enhancer of split. *Biochem. Biophys. Res. Commun.* 260: 459-465.
3. Nakagawa, O., et al. 1999. HRT1, HRT2, and HRT3: a new subclass of bHLH transcription factors marking specific cardiac, somitic, and pharyngeal arch segments. *Dev. Biol.* 216: 72-84.
4. Leimeister, C., et al. 1999. Hey genes: a novel subfamily of Hairy and Enhancer of split related genes specifically expressed during mouse embryogenesis. *Mech. Dev.* 85: 173-177.
5. Leimeister, C., et al. 2000. Analysis of HeyL expression in wild-type and Notch pathway mutant mouse embryos. *Mech. Dev.* 98: 175-178.

CHROMOSOMAL LOCATION

Genetic locus: HEY1 (human) mapping to 8q21.13; Hey1 (mouse) mapping to 3 A1.

SOURCE

HRT1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of HRT1 of human 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-16424 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-16424 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

HRT1 (C-20) is recommended for detection of HRT1 of human and, to a lesser extent, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HRT1 (C-20) is also recommended for detection of HRT1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for HRT1 siRNA (h): sc-37914, HRT1 siRNA (m): sc-37915, HRT1 shRNA Plasmid (h): sc-37914-SH, HRT1 shRNA Plasmid (m): sc-37915-SH, HRT1 shRNA (h) Lentiviral Particles: sc-37914-V and HRT1 shRNA (m) Lentiviral Particles: sc-37915-V

HRT1 (C-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HRT1: 33 kDa.

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.

SELECT PRODUCT CITATIONS

1. Zavadil, J., et al. 2004. Integration of TGF-β/Smad and Jagged1/Notch signalling in epithelial-to-mesenchymal transition. *EMBO J.* 23: 1155-1165.
2. Stylianou, S., et al. 2006. Aberrant activation of notch signaling in human breast cancer. *Cancer Res.* 66: 1517-1525.
3. Ferreira, A.C., et al. 2012. E-cadherin impairment increases cell survival through Notch-dependent upregulation of Bcl-2. *Hum. Mol. Genet.* 21: 334-343.

STORAGE

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



Try **HRT1 (NB-A7): sc-134362**, our highly recommended monoclonal alternative to HRT1 (C-20).