

YTHDF1 (A-14): sc-86026

BACKGROUND

The YTH domain family protein family (YTHDF) includes YTHDF1, YTHDF2 and YTHDF3. YTHDF1, also designated Dermatomyositis associated with cancer putative autoantigen 1 (DACA-1), is a 559 amino acid protein that contains one YTH domain, which is a potential RNA binding domain. YTHDF2, also designated High-glucose-regulated protein 8, CLL-associated antigen KW-14 or Renal carcinoma antigen NY-REN-2, is a 579 amino acid protein that also contains one YTH domain. YTHDF3 is a 585 amino acid protein that also contains one YTH domain. The gene encoding YTHDF1 maps to chromosome 20, which houses over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome. Additionally, chromosome 20 contains a region with numerous genes which are thought important for seminal production and may be potential targets for male contraception.

REFERENCES

1. Prusiner, S.B. 1998. The prion diseases. *Brain Pathol.* 8: 499-513.
2. Collins, S., McLean, C.A. and Masters, C.L. 2001. Gerstmann-Sträussler-Scheinker syndrome, fatal familial insomnia and kuru: a review of these less common human transmissible spongiform encephalopathies. *J. Clin. Neurosci.* 8: 387-397.
3. Masullo, C. and Macchi, G. 2001. Does PRNP gene control the clinical and pathological phenotype of human spongiform transmissible encephalopathies? *Clin. Neuropathol.* 20: 19-25.
4. Stoilov, P., Rafalska, I. and Stamm, S. 2002. YTH: a new domain in nuclear proteins. *Trends Biochem. Sci.* 27: 495-497.
5. Joó, J.G., Beke, A., Tóth-Pál, E., Hargitai, B., Szigeti, Z., Papp, C. and Papp, Z. 2006. Trisomy 20 mosaicism and nonmosaic trisomy 20: a report of 2 cases. *J. Reprod. Med.* 51: 209-212.
6. Ville, D., Kaminska, A., Bahi-Buisson, N., Biraben, A., Plouin, P., Telvi, L., Dulac, O. and Chiron, C. 2006. Early pattern of epilepsy in the ring chromosome 20 syndrome. *Epilepsia* 47: 543-549.
7. Elghezal, H., Hannachi, H., Mougou, S., Kammoun, H., Triki, C. and Saad, A. 2007. Ring chromosome 20 syndrome without deletions of the subtelomeric and CHRNA4-KCNQ2 genes loci. *Eur. J. Med. Genet.* 50: 441-445.
8. Lundwall, A. 2007. A locus on chromosome 20 encompassing genes that are highly expressed in the epididymis. *Asian J. Androl.* 9: 540-544.
9. O'Rand, M.G., Widgren, E.E., Wang, Z. and Richardson, R.T. 2007. Eppin: an epididymal protease inhibitor and a target for male contraception. *Soc. Reprod. Fertil. Suppl.* 63: 445-453.

CHROMOSOMAL LOCATION

Genetic locus: YTHDF1 (human) mapping to 20q13.33; Ythdf1 (mouse) mapping to 2 H4.

SOURCE

YTHDF1 (A-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of YTHDF1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-86026 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

YTHDF1 (A-14) is recommended for detection of YTHDF1 of mouse, rat and human 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).

YTHDF1 (A-14) is also recommended for detection of YTHDF1 in additional species, including equine, canine and avian.

Suitable for use as control antibody for YTHDF1 siRNA (h): sc-76945, YTHDF1 siRNA (m): sc-155423, YTHDF1 shRNA Plasmid (h): sc-76945-SH, YTHDF1 shRNA Plasmid (m): sc-155423-SH, YTHDF1 shRNA (h) Lentiviral Particles: sc-76945-V and YTHDF1 shRNA (m) Lentiviral Particles: sc-155423-V.

Molecular Weight of YTHDF1 isoform 1: 61 kDa.

Molecular Weight of YTHDF1 isoform 2: 21 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.

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.