

Dopey-2 (E-18): sc-83241

BACKGROUND

Dopey-2, also known as C21orf5, is a 2,298 amino acid protein that is ubiquitously expressed with high levels found in the developing central nervous system where it is thought to play a role in protein trafficking between early endosomes and the late Golgi. Multiple isoforms of Dopey-2 exist due to alternative splicing events. The gene encoding Dopey-2 maps to human chromosome 21 and may be involved in the pathogenesis of Down syndrome. The smallest of the human chromosomes, chromosome 21 comprises about 1.5% of the human genome and contains nearly 300 genes and 47 million base pairs. Down syndrome, also known as trisomy 21, is the disease most commonly associated with chromosome 21. Alzheimer's disease, Jervell and Lange-Nielsen syndromes, and amyotrophic lateral sclerosis are also associated with chromosome 21. Translocations are found to occur between chromosome 21 and 8, and chromosome 21 and 12, in certain leukemias.

REFERENCES

- Nagase, T., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 63-70.
- Guipponi, M., et al. 2000. C21orf5, a novel human chromosome 21 gene, has a *Caenorhabditis elegans* ortholog (pad-1) required for embryonic patterning. Genomics 68: 30-40.
- Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604803. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Lopes, C., et al. 2003. The differentially expressed C21orf5 gene in the medial temporal-lobe system could play a role in mental retardation in Down syndrome and transgenic mice. Biochem. Biophys. Res. Commun. 305: 915-924.
- Rachidi, M., et al. 2005. C21orf5, a new member of Dopey family involved in morphogenesis, could participate in neurological alterations and mental retardation in Down syndrome. DNA Res. 12: 203-210.
- Rachidi, M., et al. 2006. C21orf5, a human candidate gene for brain abnormalities and mental retardation in Down syndrome. Cytogenet. Genome Res. 112: 16-22.
- Ait Yahya-Graison, E., et al. 2007. Classification of human chromosome 21 gene-expression variations in Down syndrome: impact on disease phenotypes. Am. J. Hum. Genet. 81: 475-491.

CHROMOSOMAL LOCATION

Genetic locus: DOPEY2 (human) mapping to 21q22.12; Dopey2 (mouse) mapping to 16 C4.

SOURCE

Dopey-2 (E-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Dopey-2 of human origin.

RESEARCH USE

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

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-83241 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Dopey-2 (E-18) is recommended for detection of Dopey-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with family member Dopey-1.

Dopey-2 (E-18) is also recommended for detection of Dopey-2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Dopey-2 siRNA (h): sc-91467, Dopey-2 siRNA (m): sc-143145, Dopey-2 shRNA Plasmid (h): sc-91467-SH, Dopey-2 shRNA Plasmid (m): sc-143145-SH, Dopey-2 shRNA (h) Lentiviral Particles: sc-91467-V and Dopey-2 shRNA (m) Lentiviral Particles: sc-143145-V.

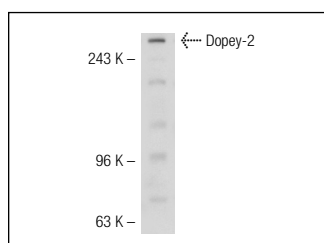
Molecular Weight of Dopey-2: 258 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Dopey-2 (E-18): sc-83241. Western blot analysis of Dopey-2 expression in MOLT-4 whole cell lysate.

STORAGE

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