

DYX2 (S-21): sc-133526

BACKGROUND

DYX2 (dyslexia type 2) also known as KIAA0319, is a 1,072 amino acid single-pass transmembrane protein that contains one MANSC domain and 2 PKD (polycystic kidney disease) domains, which are usually found in the extracellular regions of proteins and are involved in protein-protein interactions. In DYX2, it is likely that its PKD domains mediate the interaction between neurons and glial fibers during neuronal migration. When overexpressed, this plasma membrane protein colocalizes with EEA1 (early endosome antigen 1) in large intracellular vesicles, suggesting that it is endocytosed and recycled. DYX2 is highly expressed in brain cortex, cerebellum, amygdala, putamen and hippocampus. Defects in the gene encoding DYX2 may be the cause of dyslexia type 2, a relatively common disorder that is characterized by reading performance impairment in the absence of sensory or neurologic disability. There are three isoforms of DYX2 that are produced as a result of alternative splicing events.

REFERENCES

1. London, E.R., et al. 2003. A transcription map of the 6p22.3 reading disability locus identifying candidate genes. *BMC Genomics* 4: 25.
2. Cope, N., et al. 2005. Strong evidence that KIAA0319 on chromosome 6p is a susceptibility gene for developmental dyslexia. *Am. J. Hum. Genet.* 76: 581-591.
3. Velayos-Baeza, A., et al. 2007. Alternative splicing in the dyslexia-associated gene KIAA0319. *Mamm. Genome* 18: 627-634.
4. Velayos-Baeza, A., et al. 2008. The dyslexia-associated gene KIAA0319 encodes highly N- and O-glycosylated plasma membrane and secreted isoforms. *Hum. Mol. Genet.* 17: 859-871.
5. Leveque, C., et al. 2009. The dyslexia-associated protein KIAA0319 interacts with adaptor protein 2 and follows the classical clathrin-mediated endocytosis pathway. *Am. J. Physiol., Cell Physiol.* 297: C160-C168.
6. Petryshen, T.L. and Pauls, D.L. 2009. The genetics of reading disability. *Curr. Psychiatry Rep.* 11: 149-155.
7. Dennis, M.Y., et al. 2009. A common variant associated with dyslexia reduces expression of the KIAA0319 gene. *PLoS Genet.* 5: e1000436.
8. Gabel, L.A., et al. 2010. Progress towards a cellular neurobiology of reading disability. *Neurobiol. Dis.* 38: 173-180.

CHROMOSOMAL LOCATION

Genetic locus: KIAA0319 (human) mapping to 6p22.3.

SOURCE

DYX2 (S-21) is a Protein A purified rabbit polyclonal antibody raised against synthetic DYX2 peptide of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

DYX2 (S-21) is recommended for detection of DYX2 of 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), 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).

Suitable for use as control antibody for DYX2 siRNA (h): sc-95513, DYX2 shRNA Plasmid (h): sc-95513-SH and DYX2 shRNA (h) Lentiviral Particles: sc-95513-V.

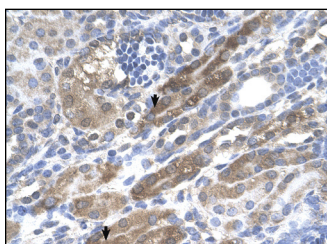
Molecular Weight of DYX2: 118 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



DYX2 (S-21): sc-133526. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing cytoplasmic localization.

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.