

# CELSR1 (M-125): sc-99198

## BACKGROUND

*Drosophila* flamingo is a seven pass transmembrane cadherin that is necessary for dendritic patterning and axon guidance. Flamingo mammalian homologs play similar roles in neuronal development, during which they play an important role in cell-cell signaling. Cadherin EGF LAG seven pass G type receptors (CELSRs) are multi-pass membrane proteins that belong to the G protein-coupled receptor family of proteins. Silencing CELSR2 gene expression results in significant simplification of dendritic arbors of cortical pyramidal neurons and Purkinje neurons, which may be due to branch retraction. In mouse, CELSR1, CELSR2 and CELSR3 are expressed in the nervous system at early developmental stages, and show expression patterns in the developing CNS. CELSR2 is distributed at intercellular boundaries in the whisker and on processes of neuronal cells such as hippocampal pyramidal cells, Purkinje cells and olfactory neurons.

## REFERENCES

1. Vincent, J.B., Skaug, J. and Scherer, S.W. 2000. The human homologue of flamingo, EGFL2, encodes a brain-expressed large cadherin-like protein with epidermal growth factor-like domains, and maps to chromosome 1p13.3-p21.1. *DNA Res.* 7: 233-235.
2. Tissir, F., De-Backer, O., Goffinet, A.M. and Lambert de Rouvroit, C. 2002. Developmental expression profiles of CELSR (Flamingo) genes in the mouse. *Mech. Dev.* 112: 157-160.
3. Curtin, J.A., Quint, E., Tsipouri, V., Arkell, R.M., Cattanach, B., Copp, A.J., Henderson, D.J., Spurr, N., Stanier, P., Fisher, E.M., Nolan, P.M., Steel, K.P., Brown, S.D., Gray, I.C. and Murdoch, J.N. 2003. Mutation of CELSR1 disrupts planar polarity of inner ear hair cells and causes severe neural tube defects in the mouse. *Curr. Biol.* 13: 1129-1133.
4. Georgieva, L., Nikolov, I., Poriazova, N., Jones, G., Toncheva, D., Kirov, G. and Owen, M.J. 2003. Genetic variation in the seven-pass transmembrane cadherin CELSR1: lack of association with schizophrenia. *Psychiatr. Genet.* 13: 103-106.
5. Formstone, C.J. and Mason, I. 2005. Expression of the CELSR/flamingo homologue, c-fmi1, in the early avian embryo indicates a conserved role in neural tube closure and additional roles in asymmetry and somitogenesis. *Dev. Dyn.* 232: 408-413.
6. Beall, S.A., Boekelheide, K. and Johnson, K.J. 2005. Hybrid GPCR/cadherin (CELSR) proteins in rat testis are expressed with cell type specificity and exhibit differential Sertoli cell-germ cell adhesion activity. *J. Androl.* 26: 529-538.

## CHROMOSOMAL LOCATION

Genetic locus: *Celsr1* (mouse) mapping to 15 E2.

## SOURCE

CELSR1 (M-125) is a rabbit polyclonal antibody raised against amino acids 2700-2824 mapping near the C-terminus of CELSR1 of mouse origin.

## RESEARCH USE

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

## PRODUCT

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

## APPLICATIONS

CELSR1 (M-125) is recommended for detection of CELSR1 of mouse and rat 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).

Suitable for use as control antibody for CELSR1 siRNA (m): sc-60350, CELSR1 shRNA Plasmid (m): sc-60350-SH and CELSR1 shRNA (m) Lentiviral Particles: sc-60350-V.

Molecular Weight of CELSR1: 329 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) 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.

## SELECT PRODUCT CITATIONS

1. Nishikawa, S. and Kawamoto, T. 2012. Planar cell polarity protein localization in the secretory ameloblasts of rat incisors. *J. Histochem. Cytochem.* 60: 376-385.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.