SANTA CRUZ BIOTECHNOLOGY, INC.

nyctalopin (S-15): sc-139163

BACKGROUND

Proteins belonging to the leucine-rich (LRR) repeat superfamily participate in a number of cellular processes including signal transduction, cellular trafficking, cell adhesion, cytoskeletal dynamics, axon guidance and tissue organization through molecular recognition mediated by LRR interaction. A member of a family of LRR proteins that are also known as SLRPs (small leucine-rich proteoglycans), nyctalopin (NYX) is a 481 amino acid protein containing an N-terminal signal sequence followed by 11 central LRR repeats. Nyctalopin is expressed in kidney and retina and also at low levels in brain, testis and muscle. Nyctalopin is believed to be attached to the cell membrane in humans via a glycosylphosphatidylinositol (GPI) anchor and through a transmembrane domain in mouse. Mutations in the nyctalopin gene cause congenital stationary night blindness type 1 (CSNB1), also called X-linked congenital stationary night blindness (XLCSNB). CSNB1 is a hereditary, non-progressive retinal disorder characterized by impaired night vision, impaired scoptopic vision, myopia, hyperopia, nystagmus and reduced visual activity.

REFERENCES

1. Bech-Hansen, N.T., et al. 2000. Mutations in NYX, encoding the leucine-rich proteoglycan nyctalopin, cause X-linked complete congenital stationary night blindness. Nat. Genet. 26: 319-323.
2. Pusch, C.M., et al. 2000. The complete form of X-linked congenital stationary night blindness is caused by mutations in a gene encoding a leucine-rich repeat protein. Nat. Genet. 26: 324-327.
3. Pesch, K., et al. 2003. Isolation of the mouse nyctalopin gene nyx and expression studies in mouse and rat retina. Invest. Ophthalmol. Vis. Sci. 44: 2260-2266.
4. Zeitz, C., et al. 2003. NYX (nyctalopin on chromosome X), the gene mutated in congenital stationary night blindness, encodes a cell surface protein. Invest. Ophthalmol. Vis. Sci. 44: 4184-4191.
5. Poopalasundaram, S., et al. 2005. Focus on molecules: nyctalopin. Exp. Eye Res. 81: 627-628.

CHROMOSOMAL LOCATION

Genetic locus: NYX (human) mapping to Xp11.4; Nyx (mouse) mapping to X A1.1.

SOURCE

nyctalopin (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of nyctalopin 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-139163 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

nyctalopin (S-15) is recommended for detection of nyctalopin 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).

nyctalopin (S-15) is also recommended for detection of nyctalopin in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for nyctalopin siRNA (h): sc-90966, nyctalopin siRNA (m): sc-150135, nyctalopin shRNA Plasmid (h): sc-90966-SH, nyctalopin shRNA Plasmid (m): sc-150135-SH, nyctalopin shRNA (h) Lentiviral Particles: sc-90966-V and nyctalopin shRNA (m) Lentiviral Particles: sc-150135-V.

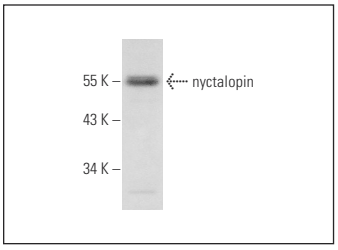
Molecular Weight of nyctalopin: 52 kDa.

Positive Controls: mouse kidney extract: sc-2255.

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

DATA



nyctalopin (S-15): sc-139163. Western blot analysis of nyctalopin expression in mouse kidney tissue extract.

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.