## SANTA CRUZ BIOTECHNOLOGY, INC.

# PPP1R1C (T-14): sc-169018



The Power to Question

### BACKGROUND

PPP1R1C (protein phosphatase 1, regulatory [inhibitor] subunit 1C), also known as IPP5, is a 109 amino acid protein that belongs to the protein phosphatase inhibitor 1 family. PPP1R1C localizes to cytoplasm and exists as two alternatively spliced isoforms. PPP1R1C maps to human chromosome 2q31.3, which is included in the critical region for 2q31.2q32.3 syndrome. The syndrome consists of multiple dysmorphisms, developmental delay, mental retardation, behavioral disturbances and speech impairment. As the second largest human chromosome, chromosome 2 makes up approximately 8% of the human genome and contains 237 million bases encoding over 1,400 genes. Chromosome 2 contains a probable vestigial second centromere, as well as vestigial telomeres, which gives credence to the hypothesis that human chromosome 2 formed as a result of an ancient fusion of two ancestral chromosomes, which are still present in modern day apes.

#### **REFERENCES**

- 1. IJdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. Proc. Natl. Acad. Sci. USA 88: 9051-9055.
- Ceulemans, H., et al. 2002. Regulator-driven functional diversification of protein phosphatase-1 in eukaryotic evolution. Bioessays 24: 371-381.
- Puthier, D., et al. 2004. A general survey of thymocyte differentiation by transcriptional analysis of knockout mouse models. J. Immunol. 173: 6109-6118.
- 4. Verpoorten, N., et al. 2005. Synaptopodin and 4 novel genes identified in primary sensory neurons. Mol. Cell. Neurosci. 30: 316-325.
- Talkowski, M.E., et al. 2008. A network of dopaminergic gene variations implicated as risk factors for schizophrenia. Hum. Mol. Genet. 17: 747-758.
- 6. Maeda, N., et al. 2009. Spatial differences in molecular characteristics of the pontine parabrachial nucleus. Brain Res. 1296: 24-34.
- Dick, D.M., et al. 2010. Evidence for genes on chromosome 2 contributing to alcohol dependence with conduct disorder and suicide attempts. Am. J. Med. Genet. B Neuropsychiatr. Genet. 153B: 1179-1188.
- 8. Cocchella, A., et al. 2010. The refinement of the critical region for the 2q31.2q32.3 deletion syndrome indicates candidate genes for mental retardation and speech impairment. Am. J. Med. Genet. B Neuropsychiatr. Genet. 153B: 1342-1346.

#### CHROMOSOMAL LOCATION

Genetic locus: PPP1R1C (human) mapping to 2q31.3; Ppp1r1c (mouse) mapping to 2 C3.

## SOURCE

PPP1R1C (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PPP1R1C of human origin.

## **STORAGE**

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

## PRODUCT

Each vial contains 200  $\mu g$  lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-169018 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## **APPLICATIONS**

PPP1R1C (T-14) is recommended for detection of PPP1R1C 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).

Suitable for use as control antibody for PPP1R1C siRNA (h): sc-94330, PPP1R1C siRNA (m): sc-152419, PPP1R1C shRNA Plasmid (h): sc-94330-SH, PPP1R1C shRNA Plasmid (m): sc-152419-SH, PPP1R1C shRNA (h) Lentiviral Particles: sc-94330-V and PPP1R1C shRNA (m) Lentiviral Particles: sc-152419-V.

Molecular Weight of PPP1R1C isoforms: 12/13 kDa.

## **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) Immunofluo-rescence: 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.

#### **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.