SANTA CRUZ BIOTECHNOLOGY, INC.

PCNP (K-16): sc-103103

BACKGROUND

PCNP (PEST proteolytic signal containing nuclear protein) is a novel 178 amino acid nuclear protein implied to play a role in cell cycle regulation and tumorigenesis. PCNP is ubiquitinated post-translationally by NIRF (Np95/ICBP90-like RING finger protein), an ubiquitin ligase. Existing as three isoforms produced by alternative splicing events, PCNP is encoded by a gene mapping to human chromosome 3q12.3. Chromosome 3 houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Key tumor suppressing genes on chromosome 3 include those that encode the apoptosis mediator RASSF1, the cell migration regulator HYAL1 and the angiogenesis suppressor SEMA3B. Marfan Syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

1. De Jonghe, P., et al. 1997. Mutilating neuropathic ulcerations in a chromosome 3q13-q22 linked Charcot-Marie-Tooth disease type 2B family. J. Neurol. Neurosurg. Psychiatr. 62: 570-573.
2. Mori, T., et al. 2002. NIRF, a novel RING finger protein, is involved in cell-cycle regulation. Biochem. Biophys. Res. Commun. 296: 530-536.
3. Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. Mol. Biol. 37: 194-211.
4. Mori, T., et al. 2004. NIRF is a ubiquitin ligase that is capable of ubiquitinating PCNP, a PEST-containing nuclear protein. FEBS Lett. 557: 209-214.
5. Tsend-Ayush, E., et al. 2004. Plasticity of human chromosome 3 during primate evolution. Genomics 83: 193-202.
6. Yue, Y., et al. 2005. Comparative cytogenetics of human chromosome 3q21.3 reveals a hot spot for ectopic recombination in hominoid evolution. Genomics 85: 36-47.
7. Nair, P.N., et al. 2007. High-resolution analysis of 3p deletion in neuroblastoma and differential methylation of the SEMA3B tumor suppressor gene. Cancer Genet. Cytogenet. 174: 100.

CHROMOSOMAL LOCATION

Genetic locus: PCNP (human) mapping to 3q12.3; Pcnp (mouse) mapping to 16 C1.1.

SOURCE

PCNP (K-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of PCNP of human origin.

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-103103 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PCNP (K-16) is recommended for detection of PCNP 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 isoform PCNP2.

PCNP (K-16) is also recommended for detection of PCNP in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PCNP siRNA (h): sc-78117, PCNP siRNA (m): sc-152115, PCNP shRNA Plasmid (h): sc-78117-SH, PCNP shRNA Plasmid (m): sc-152115-SH, PCNP shRNA (h) Lentiviral Particles: sc-78117-V and PCNP shRNA (m) Lentiviral Particles: sc-152115-V.

Molecular Weight (predicted) of PCNP: 19 kDa.

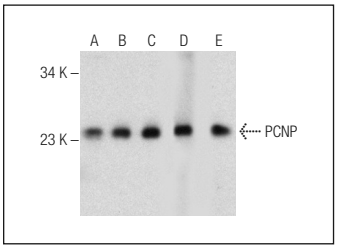
Molecular Weight (observed) of PCNP: 25 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or Jurkat nuclear extract: sc-2132.

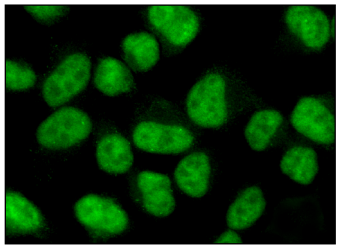
RECOMMENDED SECONDARY REAGENTS

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



PCNP (K-16): sc-103103. Western blot analysis of PCNP expression in HeLa (**A**), K-562 (**B**), Jurkat (**C**) and Hep G2 (**D**) nuclear extracts and Jurkat whole cell lysate (**E**).



PCNP (K-16): sc-103103. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear 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.