

p-p130 (Ser 639): sc-16301

BACKGROUND

The human retinoblastoma gene product plays an important role in the negative regulation of cell proliferation. Functional inactivation of Rb can be mediated either through mutation or as a consequence of interaction with DNA tumor virus encoded proteins. pRb and the structurally related p107 form complexes with E2F, a transcription factor originally identified through its role in transcriptional activation of the adenovirus E2 promoter. Moreover, pRb and p107 share a high degree of structural homology in the adenovirus E1A binding domain (i.e., "pocket region") that is believed to play a primary role in the function of these proteins. A protein designated p130 shows a high degree of identity with pRb and p107 and also possesses a pocket region. p130 undergoes cell cycle dependent phosphorylation during the mid-G₁ to S phase transition and this phosphorylation is dependent upon the activity of cyclin D/cdk4. In contrast to pRb and p107, p130 is phosphorylated during G₀ and the early G₁ phase of the cell cycle. p130 is specifically phosphorylated on serine and threonine residues in cells arrested in G₀ by serum deprivation or density arrest. Most of the phospho-serine and phospho-threonine residues are clustered within a short co-linear region unique to p130, defined as the loop.

REFERENCES

1. Kovetski, I., Reichel, R. and Nevins, J.R. 1986. Identification of a cellular transcription factor involved in E1A transactivation. *Cell* 45: 219-228.
2. Chellappan, S., Hiebert, S., Mudryj, M., Horowitz, J.M. and Nevins, J.R. 1991. The E2F transcription factor is a cellular target for the RB protein. *Cell* 65: 1053-1061.
3. Chittenden, T., Livingston, D.M. and Kaelin, W.G. Jr. 1991. The T/E1A-binding domain of the retinoblastoma product can interact selectively with a sequence-specific DNA-binding protein. *Cell* 65: 1073-1082.
4. Bandara, L., Adamczewski, J., Hunt, T. and LaThangue, N.B. 1991. Cyclin A and the retinoblastoma gene product complex with a common transcription factor. *Nature* 352: 249-251.
5. Helin, K., Lees, J.A., Vidal, M., Dyson, N., Harlow, E. and Fattaey, A. 1992. A cDNA encoding a pRb-binding protein with properties of the transcription factor E2F. *Cell* 70: 337-350.
6. Kaelin, W.G. Jr., Krek, W., Sellers, W.R., DeCaprio, J.A., Ajchenbaum, F., Fuchs, C.S., Chittenden, T., Li, Y., Farnham, P.J., Blaner, M.A., Livingston, D.M. and Flemington, E.K. 1992. Expression cloning of a cDNA encoding a retinoblastoma-binding protein with E2F-like properties. *Cell* 70: 351-364.
7. Nevins, J.R. 1992. E2F: a link between the Rb tumor suppressor protein and viral oncoproteins. *Science* 258: 424-429.

CHROMOSOMAL LOCATION

Genetic locus: RBL2 (human) mapping to 16q12.2; Rbl2 (mouse) mapping to 8 C5.

STORAGE

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

SOURCE

p-p130 (Ser 639) is available as either goat (sc-16301) or rabbit (sc-16301-R) affinity purified polyclonal antibody raised against a short amino acid sequence containing Ser 639 phosphorylated p130 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-16301 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-p130 (Ser 639) is recommended for detection of Ser 639 phosphorylated p130 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).

p-p130 (Ser 639) is also recommended for detection of correspondingly phosphorylated p130 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for p130 siRNA (h): sc-29425, p130 siRNA (m): sc-29426, p130 shRNA Plasmid (h): sc-29425-SH, p130 shRNA Plasmid (m): sc-29426-SH, p130 shRNA (h) Lentiviral Particles: sc-29425-V and p130 shRNA (m) Lentiviral Particles: sc-29426-V.

Molecular Weight of p-p130: 130 kDa.

Positive Controls: Jurkat + PMA cell lysate: sc-24718.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-16301): 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), for rabbit primary antibody (sc-16301-R): 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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: for goat primary antibody (sc-16301): 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, for rabbit primary antibody (sc-16301-R): 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.

RESEARCH USE

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