

E2F-4 (SPM179): sc-56528

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. Of all the Rb associations described to date, the identification of a complex between Rb and the transcription factor E2F most directly implicates Rb in regulation of cell proliferation. E2F was originally identified through its role in transcriptional activation of the adenovirus E2 promoter. Sequences that are homologous to the E2F binding site exist upstream of a number of genes that encode proteins with putative functions in the G₁ and S phases of the cell cycle. E2F-1 is a member of a broader family of transcription regulators including E2F-2, E2F-3, E2F-4, E2F-5 and E2F-6, each of which forms heterodimers with a second protein, DP-1, forming an "active" E2F transcriptional regulatory complex.

REFERENCES

- Chellappan, S., et al. 1991. The E2F transcription factor is a cellular target for the Rb protein. *Cell* 65: 1053-1061.
- Chittenden, T., et al. 1991. The T/E1A-binding domain of the retinoblastoma product can interact selectively with a sequence-specific DNA-binding protein. *Cell* 65: 1073-1082.
- Helin, K., et al. 1992. A cDNA encoding a pRb-binding protein with properties of the transcription factor E2F. *Cell* 70: 337-350.
- Helin, K., et al. 1993. Heterodimerization of the transcription factors E2F-1 and DP-1 leads to cooperative transactivation. *Genes Dev.* 7: 1850-1861.
- Krek, W., et al. 1993. Binding to DNA and the retinoblastoma gene product promoted by complex formation of different E2F family members. *Science* 262: 1557-1560.

CHROMOSOMAL LOCATION

Genetic locus: E2F4 (human) mapping to 16q22.1; E2f4 (mouse) mapping to 8 D3.

SOURCE

E2F-4 (SPM179) is a mouse monoclonal antibody raised against full length E2F-4 of human origin.

PRODUCT

Each vial contains IgG₁ in 250 µl of PBS with < 0.1% sodium azide.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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

APPLICATIONS

E2F-4 (SPM179) is recommended for detection of E2F-4 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [10-20 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200).

Suitable for use as control antibody for E2F-4 siRNA (h): sc-29300, E2F-4 siRNA (m): sc-35248, E2F-4 shRNA Plasmid (h): sc-29300-SH, E2F-4 shRNA Plasmid (m): sc-35248-SH, E2F-4 shRNA (h) Lentiviral Particles: sc-29300-V and E2F-4 shRNA (m) Lentiviral Particles: sc-35248-V.

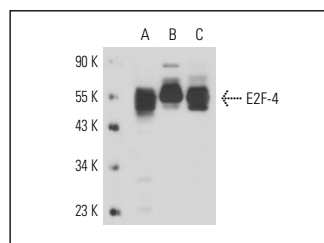
Molecular Weight of E2F-4: 60 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, Y79 nuclear extract: sc-2126 or HeLa nuclear extract: sc-2120.

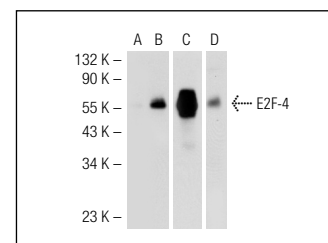
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



E2F-4 (SPM179): sc-56528. Western blot analysis of E2F-4 expression in HL-60 (A), Raji (B) and Jurkat (C) whole cell lysates.



E2F-4 (SPM179): sc-56528. Western blot analysis of E2F-4 expression in non-transfected: sc-117752 (A), mouse E2F-4 transfected: sc-119884 (B) and mouse E2F-4 transfected: sc-119883 (C) 2931 whole cell lysates and HeLa nuclear extract (D).

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.