

p-Cytokeratin 18 (Ser 33): sc-101727

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. Cytokeratins have been found to be useful markers of tissue differentiation which is directly applicable to the characterization of malignant tumors. For example, Cytokeratins 10 and 13 are expressed highly in a subset of squamous cell carcinomas while Cytokeratin 18 is expressed in a majority of adenocarcinomas and basal cell carcinomas. Cytokeratin 18 contains two major phosphorylation sites on Ser 33 and Ser 52. Phosphorylation of Ser 18 is essential for the association of Cytokeratin 18 with 14-3-3 proteins and is involved in keratin organization and distribution.

REFERENCES

- van der Velden, L.A., et al. 1993. Cytokeratin expression in normal and (pre)malignant head and neck epithelia: an overview. *Head Neck* 15: 133-146.
- Silen, A., et al. 1994. Evaluation of a new tumor marker for Cytokeratin 8 and 18 fragments in healthy individuals and prostate cancer patients. *Prostate* 24: 326-332.
- Marceau, N., et al. 1995. Cytokeratin expression, fibrillar organization and subtle function in liver cells. *Biochem. Cell Biol.* 73: 619-625.
- Quillien, V., et al. 1995. Serum and tissue distribution of a fragment of Cytokeratin 19 (cyfra 21-1) in lung cancer patients. *Anticancer Res.* 15: 2857-2863.
- Silen, A., et al. 1995. A novel IRMA and ELISA for quantifying Cytokeratin 8 and 18 fragments in the sera of healthy individuals and cancer patients. *Scan. J. Clin. Lab. Invest.* 55: 153-161.
- Mukhopadhyay, T., et al. 1996. Functional inactivation of p53 by antisense RNA induces invasive ability of lung carcinoma cells and downregulates cytoke- ratin synthesis. *Anticancer Res.* 16: 1683-1689.
- Ku, N.O., et al. 1998. Phosphorylation of human keratin 18 Serine 33 regulates binding to 14-3-3 proteins. *EMBO J.* 17: 1892-1906.

CHROMOSOMAL LOCATION

Genetic locus: KRT18 (human) mapping to 12q13.13.

SOURCE

p-Cytokeratin 18 (Ser 33) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 33 of Cytokeratin 18 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.

RESEARCH USE

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

APPLICATIONS

p-Cytokeratin 18 (Ser 33) is recommended for detection of Ser 33 phosphorylated Cytokeratin 18 of 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 and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Cytokeratin 18 siRNA (h): sc-35151.

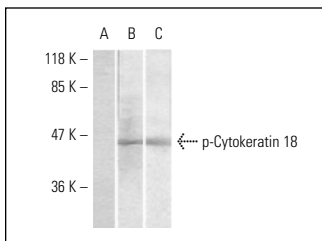
Molecular Weight of p-Cytokeratin 18: 45 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or human breast carcinoma tissue.

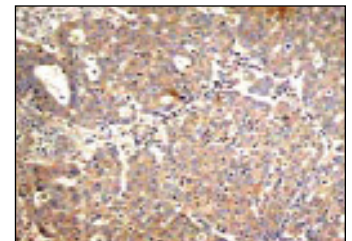
RECOMMENDED SECONDARY REAGENTS

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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminal 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Western blot analysis of phosphorylated Cytokeratin 18 expression in A-431 whole cell lysates (A,B,C). Blots were probed with p-Cytokeratin 18 (Ser 33): sc-101727 preincubated with its cognate phosphorylated peptide (A,B) and p-Cytokeratin 18 (Ser 33): sc-101727 (C).



p-Cytokeratin 18 (Ser 33): sc-101727. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

- Zou, D., et al. 2009. Increased levels of active c-Src distinguish invasive from *in situ* lobular lesions. *Breast Cancer Res.* 11: R45.

STORAGE

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