

p-Cytokeratin 18 (Ser 33): sc-17031

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

1. van der Velden, L.A., Schaafsma, H.E., Manni, J.J., Ramaekers, F.C. and Kuijpers, W. 1993. Cytokeratin expression in normal and (pre)malignant head and neck epithelia: an overview. *Head Neck* 15: 133-146.
2. Silen, A., Wiklund, B., Norlen, B.J. and Nilsson, S. 1994. Evaluation of a new tumor marker for cytokeratin 8 and 18 fragments in healthy individuals and prostate cancer patients. *Prostate* 24: 326-332.
3. Quillien, V., Ramee, M.P., Bansard, J.Y., Meritte, H., Briens, E., Logeais, Y., Langanay, T., Corbineau, H. and Dazord, L. 1995. Serum and tissue distribution of a fragment of cytokeratin 19 (cyfra 21-1) in lung cancer patients. *Anticancer Res.* 15: 2857-2863.

CHROMOSOMAL LOCATION

Genetic locus: KRT18 (human) mapping to 12q13; Krt1-18 (mouse) mapping to 15 F3.

SOURCE

p-Cytokeratin 18 (Ser 33) is available as either goat (sc-17031) or rabbit (sc-17031-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Ser 33 of Cytokeratin 18 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-17031 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

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 (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-Cytokeratin 18 (Ser 33) is also recommended for detection of correspondingly phosphorylated Ser on Cytokeratin 18 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Cytokeratin 18 siRNA (h): sc-35151, Cytokeratin 18 shRNA Plasmid (h): sc-35151-SH and Cytokeratin 18 shRNA (h) Lentiviral Particles: sc-35151-V.

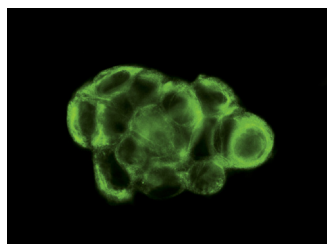
Molecular Weight of p-Cytokeratin 18: 45 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

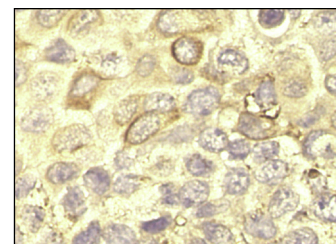
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-14268): use donkey anti-goat IgG-HRP: sc-2020 (range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (range: 1:2000-1:5000), for rabbit primary antibody (sc-14268-R): use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: for goat primary antibody (sc-14268): use donkey anti-goat IgG-FITC: sc-2024 (range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (range: 1:100-1:400), for rabbit primary antibody (sc-14268-R): use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



p-Cytokeratin 18 (Ser 33): sc-17031. Immunofluorescence staining of methanol-fixed MCF7 cells showing cytoskeletal localization.



p-Cytokeratin 18 (Ser 33): sc-17031. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast carcinoma tissue showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

1. Shi, Y., et al. 2010. Keratin 18 phosphorylation as a progression marker of chronic hepatitis B. *Virology* 7: 70.