

PHF3 (C-12): sc-107944

BACKGROUND

PHF3 (PHD finger protein 3) is a 2039 amino acid ubiquitously expressed protein that is phosphorylated upon DNA damage by either ATM or ATR. PHF3 contains a PHD finger motif, a proline-rich region, a TFIIIS domain and two bipartite nuclear localization signals. Since these motifs are frequently found in proteins involved in transcription, PHF3 may function as a transcription factor. Expression of PHF3 is significantly reduced in anaplastic astrocytomas, glioblastomas and glioblastoma cell lines, suggesting that PHF3 plays a role as a tumor suppressor. Antibodies against PHF3 are present in some patients afflicted with glioblastoma multiforme and presence of the antibody correlates to significantly better survival rates. There are two isoforms of PHF3 that are produced as a result of alternative splicing events.

REFERENCES

- Nagase, T., Seki, N., Ishikawa, K., Ohira, M., Kawarabayasi, Y., Ohara, O., Tanaka, A., Kotani, H., Miyajima, N. and Nomura, N. 1996. Prediction of the coding sequences of unidentified human genes. VI. The coding sequences of 80 new genes (KIAA0201-KIAA0280) deduced by analysis of cDNA clones from cell line KG-1 and brain. *DNA Res.* 3: 321-9: 341.
- Fischer, U., Struss, A.K., Hemmer, D., Michel, A., Henn, W., Steudel, W.I. and Meese, E. 2001. PHF3 expression is frequently reduced in glioma. *Cytogenet. Cell Genet.* 94: 131-136.
- Struss, A.K., Romeike, B.F., Munnia, A., Nastainczyk, W., Steudel, W.I., König, J., Ohgaki, H., Feiden, W., Fischer, U. and Meese, E. 2001. PHF3-specific antibody responses in over 60% of patients with glioblastoma multiforme. *Oncogene* 20: 4107-4114.
- Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607789. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Pallasch, C.P., Struss, A.K., Munnia, A., König, J., Steudel, W.I., Fischer, U. and Meese, E. 2005. Autoantibodies against GLEA2 and PHF3 in glioblastoma: tumor-associated autoantibodies correlated with prolonged survival. *Int. J. Cancer* 117: 456-459.
- Matsuoka, S., Ballif, B.A., Smogorzewska, A., McDonald, E.R., Hurov, K.E., Luo, J., Bakalarski, C.E., Zhao, Z., Solimini, N., Lerenthal, Y., Shiloh, Y., Gygi, S.P. and Elledge, S.J. 2007. ATM and ATR substrate analysis reveals extensive protein networks responsive to DNA damage. *Science* 316: 1160-1166.
- Lau, K.S., Khan, S. and Dennis, J.W. 2008. Genome-scale identification of UDP-GlcNAc-dependent pathways. *Proteomics* 8: 3294-3302.

CHROMOSOMAL LOCATION

Genetic locus: PHF3 (human) mapping to 6q12; Phf3 (mouse) mapping to 1 A5.

STORAGE

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

SOURCE

PHF3 (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PHF3 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-107944 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PHF3 (C-12) is recommended for detection of PHF3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 other PHF family members.

Suitable for use as control antibody for PHF3 siRNA (h): sc-95062, PHF3 siRNA (m): sc-152218, PHF3 shRNA Plasmid (h): sc-95062-SH, PHF3 shRNA Plasmid (m): sc-152218-SH, PHF3 shRNA (h) Lentiviral Particles: sc-95062-V and PHF3 shRNA (m) Lentiviral Particles: sc-152218-V.

Molecular Weight of PHF3: 229 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: 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), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: 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.

RESEARCH USE

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

PROTOCOLS

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