



DPPA2 (E-16): sc-69393

BACKGROUND

DPPA2 (developmental pluripotency associated 2), also known as PESCGR1 (pluripotent embryonic stem cell-related gene 1 protein), is a 298 amino acid protein that localizes to the nucleus and contains one SAP domain. Expressed in embryonic stem cells, DPPA2 is thought to play a role in the maintenance of cell pluripotentiality and is associated with abnormal cell growth and cancer formation. The gene encoding DPPA2 maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Key tumor suppressing genes on chromosome 3 include those that encode the apoptosis mediator RASSF1, the cell migration regulator HYAL1 and the angiogenesis suppressor SEMA3B. Marfan Syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth Disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

- Bortvin, A., Eggan, K., Skaletsky, H., Akutsu, H., Berry, D.L., Yanagimachi, R., Page, D.C. and Jaenisch, R. 2003. Incomplete reactivation of Oct4-related genes in mouse embryos cloned from somatic nuclei. *Development*. 130: 1673-1680.
- Braga, E.A., Kashuba, V.I., Maliukova, A.V., Loginov, V.I., Senchenko, V.N., Bazov, I.V., Kiselev, L.L. and Zabarovskii, E.R. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. *Mol. Biol.* 37: 194-211.
- Tsend-Ayush, E., Grützner, F., Yue, Y., Grossmann, B., Hänsel, U., Sudbrak, R. and Haaf, T. 2004. Plasticity of human chromosome 3 during primate evolution. *Genomics* 83: 193-202.
- Yue, Y., Grossmann, B., Ferguson-Smith, M., Yang, F. and Haaf, T. 2005. Comparative cytogenetics of human chromosome 3q21.3 reveals a hot spot for ectopic recombination in hominoid evolution. *Genomics* 85: 36-47.
- Darai, E., Kost-Alimova, M., Kiss, H., Kansoul, H., Klein, G. and Imreh, S. 2005. Evolutionarily plastic regions at human 3p21.3 coincide with tumor breakpoints identified by the "elimination test." *Genomics* 86: 1-12.
- Maldonado-Saldivia, J., van den Bergen, J., Krousos, M., Gilchrist, M., Lee, C., Li, R., Sinclair, A.H., Surani, M.A. and Western, P.S. 2007. Dppa2 and Dppa4 are closely linked SAP motif genes restricted to pluripotent cells and the germ line. *Stem Cells* 25: 19-28.
- John, T., Caballero, O.L., Svobodová, S.J., Kong, A., Chua, R., Browning, J., Fortunato, S., Deb, S., Hsu, M., Gedye, C.A., Davis, I.D., Altorki, N., Simpson, A.J., Chen, Y.T., Monk, M. and Cebon, J.S. 2008. ECSA/DPPA2 is an embryo-cancer antigen that is coexpressed with cancer-testis antigens in non-small cell lung cancer. *Clin. Cancer Res.* 14: 3291-3298.
- Monk, M., Hitchins, M. and Hawes, S. 2008. Differential expression of the embryo/cancer gene ECSA(DPPA2), the cancer/testis gene BORIS and the pluripotency structural gene OCT4, in human preimplantation development. *Mol. Hum. Reprod.* 14: 347-355.

CHROMOSOMAL LOCATION

Genetic locus: Dppa2 (mouse) mapping to 16 B5.

SOURCE

DPPA2 (E-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DPPA2 of mouse 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-69393 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-69393 X, 200 µg/0.1 ml.

APPLICATIONS

DPPA2 (E-16) is recommended for detection of DPPA2 of mouse and rat 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).

Suitable for use as control antibody for DPPA2 siRNA (m): sc-77177, DPPA2 shRNA Plasmid (m): sc-77177-SH and DPPA2 shRNA (m) Lentiviral Particles: sc-77177-V.

DPPA2 (E-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of DPPA2: 34 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.

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.

PROTOCOLS

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