SANTA CRUZ BIOTECHNOLOGY, INC.

DPPA5 (N-14): sc-82864



BACKGROUND

DPPA5 (developmental pluripotency associated 5), also known as ESG1 (embryonal stem cell-specific gene 1), is a 116 amino acid protein that localizes to the cytoplasm and contains one KH domain. Expressed in embryonic germ (EG), primordial germ (PG) and embryonic stem (ES) cells, DPPA5 plays an important role in the maintenance of ES cell pluripotency and may be necessary for proper embryogenesis. The gene encoding DPPA5 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

REFERENCES

- Kim, S.K., Suh, M.R., Yoon, H.S., Lee, J.B., Oh, S.K., Moon, S.Y., Moon, S.H., Lee, J.Y., Hwang, J.H., Cho, W.J. and Kim, K.S. 2005. Identification of developmental pluripotency associated 5 expression in human pluripotent stem cells. Stem Cells 23: 458-462.
- Amano, H., Itakura, K., Maruyama, M., Ichisaka, T., Nakagawa, M. and Yamanaka, S. 2006. Identification and targeted disruption of the mouse gene encoding ESG1 (PH34/ECAT2/DPPA5). BMC Dev. Biol. 6: 11.
- Lagarkova, M.A., Volchkov, P.Y., Lyakisheva, A.V., Philonenko, E.S. and Kiselev, S.L. 2006. Diverse epigenetic profile of novel human embryonic stem cell lines. Cell Cycle 5: 416-420.
- Pierre, A., Gautier, M., Callebaut, I., Bontoux, M., Jeanpierre, E., Pontarotti, P. and Monget, P. 2007. Atypical structure and phylogenomic evolution of the new eutherian oocyte- and embryo-expressed KHDC1/DPPA5/ECAT1/ OOEP gene family. Genomics 90: 583-594.
- 5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611111. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- Izadyar, F., Pau, F., Marh, J., Slepko, N., Wang, T., Gonzalez, R., Ramos, T., Howerton, K., Sayre, C. and Silva, F. 2008. Generation of multipotent cell lines from a distinct population of male germ line stem cells. Reproduction 135: 771-784.
- Dansranjavin, T., Krehl, S., Mueller, T., Mueller, L.P., Schmoll, H.J. and Dammann, R.H. 2009. The role of promoter CpG methylation in the epigenetic control of stem cell related genes during differentiation. Cell Cycle 8: 916-924.

CHROMOSOMAL LOCATION

Genetic locus: DPPA5 (human) mapping to 6q13; Dppa5a (mouse) mapping to 9 E1.

SOURCE

DPPA5 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of DPPA5 of human origin.

PRODUCT

Each vial contains 200 μg lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82864 P, (100 μ g 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-82864 X, 200 $\mu g/0.1$ ml.

APPLICATIONS

DPPA5 (N-14) is recommended for detection of DPPA5 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 family members DPPA2 or DPPA4.

DPPA5 (N-14) is also recommended for detection of DPPA5 in additional species, including canine.

Suitable for use as control antibody for DPPA5 siRNA (h): sc-77180, DPPA5 siRNA (m): sc-77181, DPPA5 shRNA Plasmid (h): sc-77180-SH, DPPA5 shRNA Plasmid (m): sc-77181-SH, DPPA5 shRNA (h) Lentiviral Particles: sc-77180-V and DPPA5 shRNA (m) Lentiviral Particles: sc-77181-V.

DPPA5 (N-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of DPPA5: 13 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) Immunofluo-rescence: 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.