

PERQ1 (C-13): sc-163226

BACKGROUND

PERQ1, also known as PERQ amino acid-rich with GYF domain-containing protein 1, GIGYF1 (GRB10 interacting GYF protein 1), GYF1 (GYF domain containing 1), GRB10-interacting GYF protein 1 or postmeiotic segregation increased 2-like 12, is a 1,035 amino acid phosphoprotein that contains one GYF domain and belongs to the PERQ family. Ubiquitously expressed, PERQ1 exhibits highest expression in brain and lung, followed by heart, spleen and kidney. PERQ1 contains a GYF domain in its N-terminal half and a clathrin light chain homology domain in its C-terminal half. PERQ1 interacts with GRB10, with transient binding increased under IGF-I stimulation, thereby leading to recruitment of the PERQ1/GRB10 complex to the IGF-I receptor. PERQ1 may also increase IRS-1, Shc and IGF-I receptor phosphorylation during IGF-I stimulation, and may act cooperatively with GRB10 to regulate tyrosine kinase receptor signaling.

REFERENCES

1. Wilson, M.D., Riemer, C., Martindale, D.W., Schnupf, P., Boright, A.P., Cheung, T.L., Hardy, D.M., Schwartz, S., Scherer, S.W., Tsui, L.C., Miller, W. and Koop, B.F. 2001. Comparative analysis of the gene-dense ACHE/TFR2 region on human chromosome 7q22 with the orthologous region on mouse chromosome 5. *Nucleic Acids Res.* 29: 1352-1365.
2. Giovannone, B., Lee, E., Laviola, L., Giorgino, F., Cleveland, K.A. and Smith, R.J. 2003. Two novel proteins that are linked to Insulin-like growth factor (IGF-I) receptors by the Grb10 adaptor and modulate IGF-I signaling. *J. Biol. Chem.* 278: 31564-31573.
3. Lim, M.A., Riedel, H. and Liu, F. 2004. Grb10: more than a simple adaptor protein. *Front. Biosci.* 9: 387-403.
4. Riedel, H. 2004. Grb10 exceeding the boundaries of a common signaling adapter. *Front. Biosci.* 9: 603-618.
5. Dufresne, A.M. and Smith, R.J. 2005. The adapter protein GRB10 is an endogenous negative regulator of Insulin-like growth factor signaling. *Endocrinology* 146: 4399-4409.
6. Lautier, C., Goldwurm, S., Dürr, A., Giovannone, B., Tsiaras, W.G., Pezzoli, G., Brice, A. and Smith, R.J. 2008. Mutations in the GIGYF2 (TNRC15) gene at the PARK11 locus in familial Parkinson disease. *Am. J. Hum. Genet.* 82: 822-833.
7. Giovannone, B., Tsiaras, W.G., de la Monte, S., Klysik, J., Lautier, C., Karashchuk, G., Goldwurm, S. and Smith, R.J. 2009. GIGYF2 gene disruption in mice results in neurodegeneration and altered Insulin-like growth factor signaling. *Hum. Mol. Genet.* 18: 4629-4639.
8. Ajiro, M., Katagiri, T., Ueda, K., Nakagawa, H., Fukukawa, C., Lin, M.L., Park, J.H., Nishidate, T., Daigo, Y. and Nakamura, Y. 2009. Involvement of RQCD1 overexpression, a novel cancer-testis antigen, in the Akt pathway in breast cancer cells. *Int. J. Oncol.* 35: 673-681.

STORAGE

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

CHROMOSOMAL LOCATION

Genetic locus: GIGYF1 (human) mapping to 7q22.1; Gigyf1 (mouse) mapping to 5 G2.

SOURCE

PERQ1 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PERQ1 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-163226 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PERQ1 (C-13) is recommended for detection of PERQ1 of mouse, rat and 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).

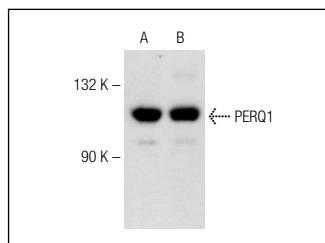
PERQ1 (C-13) is also recommended for detection of PERQ1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PERQ1 siRNA (h): sc-89495, PERQ1 siRNA (m): sc-152176, PERQ1 shRNA Plasmid (h): sc-89495-SH, PERQ1 shRNA Plasmid (m): sc-152176-SH, PERQ1 shRNA (h) Lentiviral Particles: sc-89495-V and PERQ1 shRNA (m) Lentiviral Particles: sc-152176-V.

Molecular Weight of PERQ1: 115 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or A549 cell lysate: sc-2413.

DATA



PERQ1 (C-13): sc-163226. Western blot analysis of PERQ1 expression in A549 (A) and Jurkat (B) whole cell lysates

RESEARCH USE

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