

PACT (N-20): sc-18768

BACKGROUND

Interferon-inducible double stranded RNA-dependent protein kinase activator, also designated PKR-associated protein X (RAX) or PACT, acts as a protein activator of PKR. Following stress such as serum starvation or peroxide or arsenite treatment, PACT associates with and activates PKR, resulting in eIF2 α activation (phosphorylation), consequent translation inhibition and apoptosis. PACT can directly interact with double stranded RNA (dsRNA), however, eIF2 α activation occurs only in the absence of dsRNA. The presence of certain growth factors may suppress the pro-apoptotic function of PACT. In both human and mouse cells, PACT is phosphorylated on Serine 18, and the phosphorylated form activates PKR following stress. PACT may exist as a heterodimer with eIF2 α , interacting through its DRBM domain.

REFERENCES

- Patel, R.C., et al. 1998. PACT, a protein activator of the interferon-induced protein kinase, PKR. *EMBO J.* 17: 4379-4390.
- Ito, T., et al. 1999. RAX, a cellular activator for double-stranded RNA-dependent protein kinase during stress signaling. *J. Biol. Chem.* 274: 15427-15432.
- Huang, X., et al. 2002. The C-terminal, third conserved motif of the protein activator PACT plays an essential role in the activation of double-stranded-RNA-dependent protein kinase (PKR). *Biochem. J.* 366: 175-186.
- Peters, G.A., et al. 2002. Inhibition of PACT-mediated activation of PKR by the herpes simplex virus type 1 Us11 protein. *J. Virol.* 76: 11054-11064.
- Yang, M., et al. 2003. A novel role for RAX, the cellular activator of PKR, in synergistically stimulating SV40 large T antigen-dependent gene expression. *J. Biol. Chem.* 278: 38325-38332.

CHROMOSOMAL LOCATION

Genetic locus: PRKRA (human) mapping to 2q31.2; Prkra (mouse) mapping to 2 C3.

SOURCE

PACT (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PACT of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18768 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4 $^{\circ}$ 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

PACT (N-20) is recommended for detection of PACT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

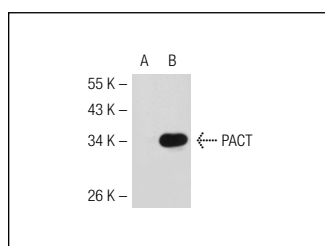
PACT (N-20) is also recommended for detection of PACT in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for PACT siRNA (h): sc-36175, PACT siRNA (m2): sc-63342, PACT shRNA Plasmid (h): sc-36175-SH, PACT shRNA Plasmid (m2): sc-63342-SH, PACT shRNA (h) Lentiviral Particles: sc-36175-V and PACT shRNA (m2) Lentiviral Particles: sc-63342-V.

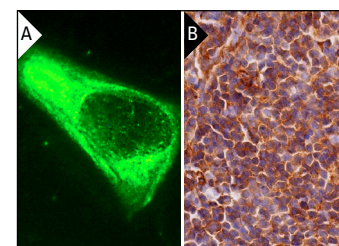
Molecular Weight of PACT: 34 kDa.

Positive Controls: PACT (m): 293T Lysate: sc-127290, C2C12 whole cell lysate: sc-364188 or HeLa whole cell lysate: sc-2200.

DATA



PACT (N-20): sc-18768. Western blot analysis of PACT expression in non-transfected: sc-117752 (A) and mouse PACT transfected: sc-127290 (B) 293T whole cell lysates.



PACT (N-20): sc-18768. Immunofluorescence staining of methanol-fixed SK-N-SH cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic and membrane staining of cells in germinal and non-germinal centers (B).

SELECT PRODUCT CITATIONS

- Chen, G., et al. 2006. Interaction between RAX and PKR modulates the effect of ethanol on protein synthesis and survival of neurons. *J. Biol. Chem.* 281: 15909-15915.
- Paquet, C., et al. 2012. The PKR activator PACT is induced by A β : involvement in Alzheimer's disease. *Brain Pathol.* 22: 219-229.

PROTOCOLS

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



Try **PACT (D-4): sc-377103** or **PACT (2830C1a): sc-81569**, our highly recommended monoclonal alternatives to PACT (N-20).