

p-PACT (1A6-1H4): sc-73478

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 cell death via apoptosis. PACT can interact with double stranded RNA (dsRNA), but the eIF2 α activation occurs only in 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 non-phosphorylated form appears to be unable to activate PKR following stress. PACT can form a heterodimer as it interacts with eIF2 α through its DRBM domain.

REFERENCES

1. Patel, R.C., et al. 1998. PACT, a protein activator of the interferon-induced protein kinase, PKR. *EMBO J.* 17: 4379-4390.
2. 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.
3. 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.
4. 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.
5. 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.
6. Bennett, R.L., et al. 2004. Serine 18 phosphorylation of RAX, the PKR activator, is required for PKR activation and consequent translation inhibition. *J. Biol. Chem.* 279: 42687-42693.

CHROMOSOMAL LOCATION

Genetic locus: Rax (mouse) mapping to 18 E1.

SOURCE

p-PACT (1A6-1H4) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 13-25, including phosphorylated Ser 18, of PACT of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

p-PACT (1A6-1H4) is recommended for detection of Ser 18 phosphorylated PACT of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

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

Molecular Weight of p-PACT: 35 kDa.

RESEARCH USE

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

PROTOCOLS

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