

PP2C-alpha monoclonal antibody

Catalog: MB66469

Host: Mouse

Reactivity: Human, Monkey

BackGround:

The α isoform of protein phosphatase 2C (PP2C- α) is the catalytic subunit of a widely expressed serine/threonine phosphatase involved in regulation of the cell stress response. Also known as magnesium-dependent protein phosphatase (PPM1A), this monomeric phosphatase is a member of a conserved group of proteins that acts on many different substrates in numerous pathways. PP2C- α inhibits p38 MAPK and SAPK/JNK pathways activated in response to cell stress as seen in both in vivo and in vitro studies. Specifically, PP2C- α removes phosphates from MKK3 and MKK7, reducing activity of both proteins and inhibiting activation of the downstream kinases JNK and p38 MAPK, respectively. Another PP2C- α substrate is IKK β , the critical regulator of NF- κ B signaling. Dephosphorylation of IKK β at Ser177/181 by PPM1A and PPM1B results in inactivation of IKK β and inhibition of NF- κ B signaling. PP2C- α is one of the phosphatases responsible for removing phosphate residues from cyclin dependent protein kinases. In a study using HeLa cell extracts, PP2C- α dephosphorylates CDK2 and CDK6, with a preference toward interacting with CDK2 phosphorylated at Thr160, a residue found in the activating T-loop of the kinase. Removal of phosphates from this site is thought to inactivate cyclin-associated kinases. PP2C- α induces cell cycle arrest and apoptosis, likely through activation of p53 though other pathways may also contribute to PP2C- α mediated cell death. Additional PP2C- α substrates include the Wnt signaling pathway protein axin and CFTR, a chloride channel protein implicated in cystic fibrosis.

Product:

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 43 kDa

Swiss-Prot:

P35813

Purification&Purity:

The antibody was purified by protein G.

Applications:

WB (1/500 - 1/1000), FC (1/100 - 1/200)

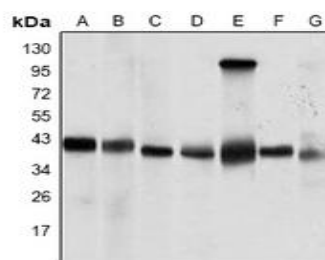
Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

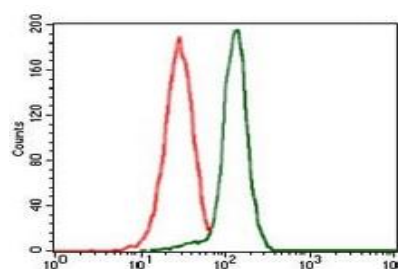
Specificity:

Recognizes endogenous levels of PP2C-alpha protein.

DATA:



Western blot analysis of PP2C-alpha expression in COS7 (A), Jurkat (B), A431 (C), HeLa (D), HEK293 (E), Raji (F), MCF7 (G) whole cell lysates.



Note:

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

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