



Pho85 (yP-16): sc-25201

BACKGROUND

Cyclin-dependent kinases (Cdks) are key regulators of the cell division cycle. Pho85, which is a multifunctional Cdk in the budding yeast *Saccharomyces cerevisiae* participates in several signal transduction pathways. The responses mediated by Pho85 include cell-cycle progression and metabolism of nutrients such as phosphate and carbon sources. The kinase activity of Pho85 informs the cell that the current environment is satisfactory.

Consistent with a broad spectrum of functions, Pho85 associates with a family of 10 cyclins and deletion of PHO85 causes a pleiotropic phenotype. As part of a nutrient-responsive signaling pathway, the budding yeast cyclin-CDK complex Pho80-Pho85 phosphorylates the transcription factor Pho4 on five sites and inactivates it. The Pho85-Pho80 kinase complex is the yeast functional homologue of the mammalian Cdk5/p35(nck5a) kinase. Pho80-Pho85 phosphorylates Pho4 in a semi-processive fashion and, in addition, Pho80-Pho85 phosphorylates certain sites preferentially.

REFERENCES

1. Wu, J.S., Xia, Z.X., Cao, Z., and Ao, S.Z. 1998. Cloning and expression of a novel PHO85 associated protein PAP1 gene of *Saccharomyces cerevisiae*. Sheng Wu Hua Xue Yu Sheng Wu Wu Li Xue Bao (Shanghai).30: 14-20.
2. Jeffery, D.A., Springer, M., King, D.S., and O'Shea, E.K. 2001. Multi-site phosphorylation of Pho4 by the cyclin-CDK Pho80-Pho85 is semi-processive with site preference. J. Mol. Biol. 306: 997-1010.
3. Huang, D., Moffat, J., and Andrews, B. 2002. Dissection of a complex phenotype by functional genomics reveals roles for the yeast cyclin-dependent protein kinase Pho85 in stress adaptation and cell integrity. Mol. Cell. Biol. 22: 5076-5088.
4. Ching, Y.P., Pang, A.S., Lam, W.H., Qi, R.Z., and Wang, J.H. 2002. Identification of a neuronal Cdk5 activator-binding protein as Cdk5 inhibitor. J. Biol. Chem. 277: 15237-15240.
5. Carroll, A.S., and O'Shea, E.K. 2002. Pho85 and signaling environmental conditions. Trends Biochem. Sci. 27: 87-93.

SOURCE

Pho85 (yP-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Pho85 of *Saccharomyces cerevisiae* 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-25201 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Pho85 (yP-16) is recommended for detection of Pho85 of *Saccharomyces cerevisiae* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

PROTOCOLS

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