SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase p85α (333-430): sc-4016

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The Power to Question

BACKGROUND

Phosphatidylinositol 3-kinase (PI 3-kinase) is composed of 85 kDa (p85) and 110 kDa (p110) subunits. p85 lacks PI 3-kinase activity and acts as an adapter, coupling p110 to activated protein tyrosine kinase. Two forms of p85 have been described (p85α and p85β), each possessing one SH3 and two SH2 domains. Various p110 isoforms have been identified. p110α and p110β interact with p85α, and p110α has also been shown to interact with p85β *in vitro*. p110δ expression is restricted to white blood cells. It has been shown to bind p85α and p85β, but it apparently does not phosphorylate these subunits. p110δ seems to have the capacity to autophosphorylate. p110γ does not interact with the p85 subunits. It has been shown to be activated by α and βγ heterotrimeric G proteins.

REFERENCES

1. Skolnik, E.Y., Margolis, B., Mohammadi, M., Lowenstein, E., Fischer, R., Drepps, A., Ullrich, A., and Schlessinger, J. 1991. Cloning of PI3 kinase-associated p85 utilizing a novel method for expression/cloning of target proteins for receptor tyrosine kinases. Cell 65: 83-90.
2. Otsu, M., Hiles, I., Gout, I., Fry, M.J., Ruiz-Larrea, F., Panayotou, G., Thompson, A., Dhand, R., Hsuan, J., and Totty, N. 1991. Characterization of two 85 κδ proteins that associate with receptor tyrosine kinases, middle-T/pp60-src complexes, and PI3-kinase. Cell 65: 91-104.
3. Hiles, I.D., Otsu, M., Volinia, S., Fry, M.J., Gout, I., Dhand, R., Panayotou, G., Ruiz-Larrea, F., Thompson, A., and Totty, N.F. 1992. Phosphatidylinositol 3-kinase: structure and expression of the 110 kDa catalytic subunit. Cell 70: 419-429.
4. Hu, P., Mondino, A., Skolnik, E.Y., and Schlessinger, J. 1993. Cloning of a novel, ubiquitously expressed human phosphatidylinositol 3-kinase and identification of its binding site on p85. Mol. Cell. Biol. 13: 7677-7688.
5. Stoyanov, B., Volinia, S., Hanck, T., Rubio, I., Loubtchenkov, M., Malek, D., Stoyanova, S., Vanhaesebrock, B., Dhand, R., and Nurnberg, B. 1995. Cloning and characterization of a G protein-activated human phosphoinositide-3 kinase. Science 269: 690-693.
6. Vanhaesebrock, B., Welham, M.J., Kotani, K., Stein, R., Warne, P.H., Zvelebil, M.J., Higashi, K., Volinia, S., Downward, J., and Waterfield, M.D. 1997. p110d, a novel phosphoinositide 3-kinase in leukocytes. Proc. Natl. Acad. Sci. USA 94: 4330-4335.

SOURCE

PI 3-kinase p85α (333-430) is expressed in *E. coli* as a 37 kDa tagged fusion protein corresponding to amino acids 333-430 representing the complete amino terminal PI 3-kinase p85α SH2 domain of human origin.

PRODUCT

PI 3-kinase p85α (333-430) is purified from bacterial lysates (>98%) by glutathione agarose chromatography and supplied as 50 µg purified protein in PBS containing 5 mM DTT and 50% glycerol.

Also available in agarose conjugate form; 100 µg purified PI 3-kinase p85α (333-430) protein conjugated to 0.1 ml agarose in PBS containing 0.1% azide, 0.1% BSA and 10% glycerol: PI 3-kinase p85α (333-430) AC: sc-4016 AC.

APPLICATIONS

PI 3-kinase p85α (333-430) is recommended for the enrichment of PI 3-kinase p85α associated proteins when used in combination with glutathione agarose (sc-2009).

It is also suitable as a Western blotting control for sc-423 and sc-1637.

STORAGE

Store PI 3-kinase p85α (333-430): sc-4016 at -20° C and store PI 3-kinase p85α (333-430) AC: sc-4016 AC at 4° C. Stable for one year from the date of shipment.

RESEARCH USE

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