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PDK1, Active recombinant protein

PDK, [Pyruvate dehydrogenase [lipoamide]] kinase isozyme 1,
Catalog # PBV11282r

Specification

PDK1, Active recombinant protein - Product info

Primary Accession	Q15118
Concentration	0.1
Calculated MW	~59.0 kDa KDa

PDK1, Active recombinant protein - Additional Info

Gene ID	5163
Gene Symbol	PDK1

Other Names
PDK, [Pyruvate dehydrogenase [lipoamide]] kinase isozyme 1,

Source	Baculovirus (Sf9 insect cells)
Assay&Purity	SDS-PAGE; ≥95%
Assay2&Purity2	HPLC;
Recombinant	Yes

Format
Liquid

Storage
-80°C; Recombinant proteins in storage buffer (50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EGTA, 0.1 mM EDTA, 0.1 mM PMSF, 25% glycerol).

PDK1, Active recombinant protein - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PDK1, Active recombinant protein - Images

PDK1, Active recombinant protein - Background

The initial steps in insulin signal transduction occur at the plasma membrane and lead to the activation of phosphatidylinositide (PtdIns) 3-kinase and the formation of PtdIns(3,4,5,)P3 in the inner leaflet of the plasma membrane which is then converted to PtdIns(3,4)P2 by a specific phosphatase. PDK1 or 3-phosphoinositide-dependent protein kinase (PDK1), is activated by the

presence of PtdIns(3,4,5)P3 or PtdIns(3,4)P2 (1). PDK1 then activates protein kinase B (PKB) (2) which, in turn, inactivates glycogen synthase kinase-3 (GSK3). The phosphorylation of other proteins by PKB and GSK3 is likely to mediate many of the intracellular actions of insulin. Thus, PDK1 plays a key role in mediating many of the actions of the second messenger(s) PtdIns(3,4, 5)P3 and/or PtdIns(3,4)P2. The human PDK1 is a 556-residue monomeric enzyme comprising of a catalytic domain that is most similar to the PKA, PKB and PKC subfamily of protein kinases and a carboxy-terminal pleckstrin homology (PH) domain. The PDK1 gene is located on human chromosome 16p13.3 and is expressed ubiquitously in human tissues. Human PDK1 is homologous to the Drosophila protein kinase DSTPK61 (3), which have been implicated in the regulation of sex differentiation, oogenesis and spermatogenesis. Expressed PDK1 and DSTPK61 phosphorylated Thr308 of PKB α only in the presence of Ptdlns(3,4,5)P3 or Ptdlns(3,4)P2. Overexpression of PDK1 in 293 cells activated PKB α and potentiated the IGF1-induced phosphorylation of PKB α at Thr308.

PDK1, Active recombinant protein - References

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Ota T.,et al.Nat. Genet. 36:40-45(2004).
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