



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# PDK3 (m): 293T Lysate: sc-122470

## BACKGROUND

Pyruvate dehydrogenase kinase family members (PDK1, 2, 3, 4) are serine kinases that catalyze phosphorylation of the E1 $\alpha$  subunit of the pyruvate dehydrogenase complex (PDC). PDC activity is controlled through phosphorylation and dephosphorylation of the E1 $\alpha$  subunit, which leads to inactivation and reactivation, respectively. PDK3 binding to a free lipoyl domain (L2) in dihydrolipoyl acetyltransferase (E2), which comprises the core of PDC, leads to a large increase in E1 $\alpha$  phosphorylation. Upregulation of PDK isoenzymes occurs during starvation conditions, where acetyl-CoA is alternatively generated through fatty acid oxidation. PDKs contain five conserved regions and are mechanistically similar to bacterial His-kinases in that both require histidine residues for activity. In mammals, transcripts for PDK3 are most abundant in testis and moderately expressed in heart and skeletal muscle.

## REFERENCES

- Gudi, R., Bowker-Kinley, M.M., Kedishvili, N.Y., Zhao, Y. and Popov, K.M. 1995. Diversity of the pyruvate dehydrogenase kinase gene family in humans. *J. Biol. Chem.* 270: 28989-28994. Erratum in 1996 *J. Biol. Chem.* 271: 1250.
- Bowker-Kinley, M.M., Davis, W.I., Wu, P., Harris, R.A. and Popov, K.M. 1998. Evidence for existence of tissue-specific regulation of the mammalian pyruvate dehydrogenase complex. *Biochem. J.* 329: 191-196.
- Sugden, M.C., Lall, H.S., Harris, R.A. and Holness, M.J. 2000. Selective modification of the pyruvate dehydrogenase kinase isoform profile in skeletal muscle in hyperthyroidism: implications for the regulatory impact of glucose on fatty acid oxidation. *J. Endocrinol.* 167: 339-345.
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- Baker, J.C., Yan, X., Peng, T., Kasten, S. and Roche, T.E. 2000. Marked differences between two isoforms of human pyruvate dehydrogenase kinase. *J. Biol. Chem.* 275: 15773-15781.
- Wu, P., Blair, P.V., Sato, J., Jaskiewicz, J., Popov, K.M. and Harris, R.A. 2000. Starvation increases the amount of pyruvate dehydrogenase kinase in several mammalian tissues. *Arch. Biochem. Biophys.* 381: 1-7.

## CHROMOSOMAL LOCATION

Genetic locus: *Pdk3* (mouse) mapping to X C3.

## PRODUCT

PDK3 (m): 293T Lysate represents a lysate of mouse PDK3 transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## STORAGE

Store at -20 $^{\circ}$  C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## RESEARCH USE

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

## APPLICATIONS

PDK3 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive PDK3 antibodies. Recommended use: 10-20  $\mu$ l per lane.

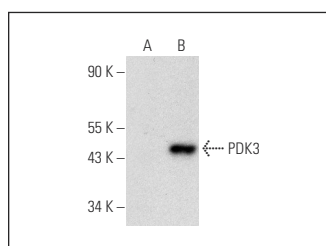
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PDK3 (A-4): sc-365378 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse PDK3 expression in PDK3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

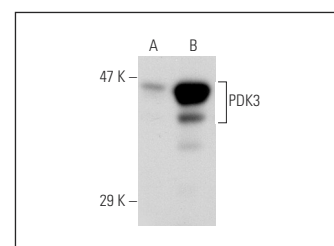
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



PDK3 (A-4): sc-365378. Western blot analysis of PDK3 expression in non-transfected: sc-117752 (A) and mouse PDK3 transfected: sc-122470 (B) 293T whole cell lysates.



PDK3 (RR-2): sc-100535. Western blot analysis of PDK3 expression in non-transfected: sc-117752 (A) and mouse PDK3 transfected: sc-122470 (B) 293T whole cell lysates.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.