

# $\alpha$ -protein kinase 3 (P-17): sc-163598

## BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis.  $\alpha$ -protein kinase 3, also known as ALPK3, MAK or KIAA1330, is a 1,907 amino acid protein that contains one  $\alpha$ -type protein kinase domain, one Ig-like (immunoglobulin-like) domain, and belongs to the protein kinase superfamily and ALPK subfamily. Members of the ALPK subfamily include ALPK1, ALPK2 and ALPK3, all of which recognize and phosphorylate specific sites that are surrounded by peptides that have an  $\alpha$ -helical conformation. Specifically,  $\alpha$ -protein kinase 1 targets Myosin I and is thought to play an important role in the apical trafficking of vesicles carrying raft-associated sucrase-isomaltase (SI).

## REFERENCES

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- Drennan, D. and Ryazanov, A.G. 2004.  $\alpha$ -kinases: analysis of the family and comparison with conventional protein kinases. *Prog. Biophys. Mol. Biol.* 85: 1-32.

## CHROMOSOMAL LOCATION

Genetic locus: ALPK3 (human) mapping to 15q25.3; Alpk3 (mouse) mapping to 7 D3.

## SOURCE

$\alpha$ -protein kinase 3 (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of  $\alpha$ -protein kinase 3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-163598 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

$\alpha$ -protein kinase 3 (P-17) is recommended for detection of  $\alpha$ -protein kinase 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with  $\alpha$ -protein kinase 1 or  $\alpha$ -protein kinase 2.

$\alpha$ -protein kinase 3 (P-17) is also recommended for detection of  $\alpha$ -protein kinase 3 in additional species, including equine and canine.

Suitable for use as control antibody for  $\alpha$ -protein kinase 3 siRNA (h): sc-90044,  $\alpha$ -protein kinase 3 siRNA (m): sc-140599,  $\alpha$ -protein kinase 3 shRNA Plasmid (h): sc-90044-SH,  $\alpha$ -protein kinase 3 shRNA Plasmid (m): sc-140599-SH,  $\alpha$ -protein kinase 3 shRNA (h) Lentiviral Particles: sc-90044-V and  $\alpha$ -protein kinase 3 shRNA (m) Lentiviral Particles: sc-140599-V.

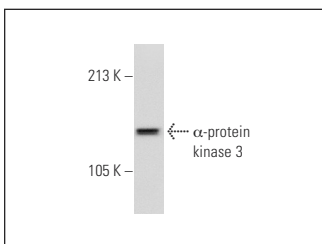
Molecular Weight of  $\alpha$ -protein kinase 3: 140 kDa.

Positive Controls: mouse heart extract: sc-2254.

## 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



$\alpha$ -protein kinase 3 (P-17): sc-163598. Western blot analysis of  $\alpha$ -protein kinase 3 expression in mouse heart tissue extract.

## 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.