

# PAPSS 2 (N-16): sc-47311

## BACKGROUND

Bifunctional 3'-phosphoadenosine 5'-phosphosulfate synthetases (PAPS synthetase or PAPSS), also designated sulfurylase kinase (SK), are important for sulfate assimilation in the sulfur metabolism pathway. PAPS proteins are bifunctional enzymes with APS kinase and ATP sulfurylase activity, which mediate two steps in the sulfate activation pathway. The PAPSS proteins belong to the APS kinase family and to the sulfate adenyltransferase family of proteins. In mammals, PAPSS proteins are the sole source of sulfate. During postnatal growth, PAPSS proteins may play a role in skeletogenesis. Defects in the PAPSS2 gene can cause the Pakistani type of spondyloepimetaphyseal dysplasia (SEMD), an autosomal recessive form of SEMD characterized by short, bowed limbs, enlarged knee joints and mild brachydactyly.

## REFERENCES

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- Kurima, K., et al. 1999. Genomic organization of the mouse and human genes encoding the ATP sulfurylase/adenosine 5'-phosphosulfate kinase isoform SK2. *J. Biol. Chem.* 274: 33306-33312.
- Xu, Z.H., et al. 2000. Human 3'-phosphoadenosine 5'-phosphosulfate synthetase 1 (PAPSS1) and PAPSS2: gene cloning, characterization and chromosomal localization. *Biochem. Biophys. Res. Commun.* 268: 437-444.
- Kim, M.S., et al. 2004. Suppression of DHEA sulfotransferase (Sult2A1) during the acute-phase response. *Am. J. Physiol. Endocrinol. Metab.* 287: E731-E738.
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- Genevieve, D., et al. 2005. Exclusion of the dymeclin and PAPSS2 genes in a novel form of spondyloepimetaphyseal dysplasia and mental retardation. *Eur. J. Hum. Genet.* 13: 541-546.

## CHROMOSOMAL LOCATION

Genetic locus: PAPSS2 (human) mapping to 10q23.2; Paps2 (mouse) mapping to 19 C1.

## SOURCE

PAPSS 2 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PAPSS 2 of human 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-47311 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

PAPSS 2 (N-16) is recommended for detection of PAPSS 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PAPSS 2 (N-16) is also recommended for detection of PAPSS 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PAPSS 2 siRNA (h): sc-61293, PAPSS 2 siRNA (m): sc-61294, PAPSS 2 shRNA Plasmid (h): sc-61293-SH, PAPSS 2 shRNA Plasmid (m): sc-61294-SH, PAPSS 2 shRNA (h) Lentiviral Particles: sc-61293-V and PAPSS 2 shRNA (m) Lentiviral Particles: sc-61294-V.

Molecular Weight of PAPSS 2: 70 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

## 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) 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.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

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