

## COASY (E-7): sc-393812



The Power to Question

## BACKGROUND

COASY (coenzyme A synthase), also known as NBP (nucleotide binding protein), DPCK (dephospho-coenzyme A kinase), PPAT (pantetheine-phosphate adenyltransferase), UKR1 or pOV-2, is a bifunctional enzyme involved in the biosynthesis of coenzyme A (CoA). COASY exhibits both Ppat activity and DPCK activity, catalyzing steps four and five, respectively, of the CoA biosynthetic pathway. Functioning as a widely expressed monomer and induced by phospholipids, COASY localizes to the outer mitochondrial membrane and facilitates the conversion of 4'-phosphopantetheine to dephospho-CoA and the subsequent generation of CoA. CoA is an important molecule in the cell, participating in carbohydrate, amino acid and fatty acid metabolism. It is the predominant acetyl and acyl group carrier and is used as a substrate by approximately 4% of all cellular enzymes. Due to alternative splicing events, an additional isoform of COASY, namely COASY  $\beta$ , is expressed in brain and contains an extra 29 amino acids at the N-terminus.

## CHROMOSOMAL LOCATION

Genetic locus: COASY (human) mapping to 17q21.2; Coasy (mouse) mapping to 11 D.

## SOURCE

COASY (E-7) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of COASY of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

COASY (E-7) is available conjugated to agarose (sc-393812 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393812 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393812 PE), fluorescein (sc-393812 FITC), Alexa Fluor<sup>®</sup> 488 (sc-393812 AF488), Alexa Fluor<sup>®</sup> 546 (sc-393812 AF546), Alexa Fluor<sup>®</sup> 594 (sc-393812 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-393812 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-393812 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-393812 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

COASY (E-7) is recommended for detection of COASY of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for COASY siRNA (h): sc-93576, COASY siRNA (m): sc-142448, COASY shRNA Plasmid (h): sc-93576-SH, COASY shRNA Plasmid (m): sc-142448-SH, COASY shRNA (h) Lentiviral Particles: sc-93576-V and COASY shRNA (m) Lentiviral Particles: sc-142448-V.

Molecular Weight of COASY: 60 kDa.

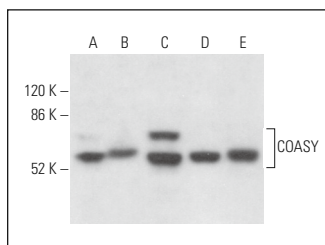
Molecular Weight of COASY  $\beta$ : 70 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or A549 cell lysate: sc-2413.

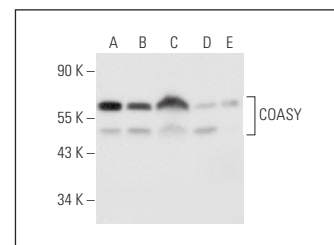
## RECOMMENDED SUPPORT REAGENTS

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>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



COASY (E-7): sc-393812. Western blot analysis of COASY expression in A549 (A), SH-SY5Y (B), K-562 (C), 3T3-L1 (D) and KNRK (E) whole cell lysates.



COASY (E-7): sc-393812. Western blot analysis of COASY expression in A-431 (A), Hep G2 (B), HeLa (C) and A-549 (D) whole cell lysates and human liver tissue extract (E).

## SELECT PRODUCT CITATIONS

- Lin, C.C., et al. 2018. CoA synthase regulates mitotic fidelity via CBP-mediated acetylation. *Nat. Commun.* 9: 1039.
- Jeong, S.Y., et al. 2019. 4'-phosphopantetheine corrects CoA, iron, and dopamine metabolic defects in mammalian models of PKAN. *EMBO Mol. Med.* 29: e10489.
- Ferrandon, S., et al. 2020. CoA synthase (COASY) mediates radiation resistance via PI3K signaling in rectal cancer. *Cancer Res.* 80: 334-346.

## 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.

## PROTOCOLS

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

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