

PEA-15 (H-3): sc-166678

BACKGROUND

PEA-15 (phosphoprotein enriched in astrocytes) exists in a non-phosphorylated form (N), and two phosphorylated forms, Pa and Pb. PEA-15 is an endogenous substrate for PKC, which mediates the transition from Pa to Pb. The level of PEA-15 phosphorylation changes upon depolymerization or stabilization of tubulins, indicating that PEA-15 colocalizes with microtubules. The first 80 amino acids of PEA-15 correspond to the death effector domain (DED), which is a domain found in proteins that regulate apoptotic signaling pathways. The DED domain is necessary for PEA-15 to block Ras suppression. Although PEA-15 is predominantly expressed in the central nervous system, low levels of PEA-15 are expressed in liver and kidney, and higher levels in muscle. PEA-15 is also referred to as PED, phosphoprotein enriched in diabetes, for its elevated expression in type 2 diabetic patients.

CHROMOSOMAL LOCATION

Genetic locus: PEA15 (human) mapping to 1q23.2; Pea15a (mouse) mapping to 1 H3.

SOURCE

PEA-15 (H-3) is a mouse monoclonal antibody raised against amino acids 51-130 mapping at the C-terminus of PEA-15 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PEA-15 (H-3) is available conjugated to agarose (sc-166678 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166678 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166678 PE), fluorescein (sc-166678 FITC), Alexa Fluor® 488 (sc-166678 AF488), Alexa Fluor® 546 (sc-166678 AF546), Alexa Fluor® 594 (sc-166678 AF594) or Alexa Fluor® 647 (sc-166678 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166678 AF680) or Alexa Fluor® 790 (sc-166678 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PEA-15 (H-3) is recommended for detection of PEA-15 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

PEA-15 (H-3) is also recommended for detection of PEA-15 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PEA-15 siRNA (h): sc-37485, PEA-15 siRNA (m): sc-37486, PEA-15 shRNA Plasmid (h): sc-37485-SH, PEA-15 shRNA Plasmid (m): sc-37486-SH, PEA-15 shRNA (h) Lentiviral Particles: sc-37485-V and PEA-15 shRNA (m) Lentiviral Particles: sc-37486-V.

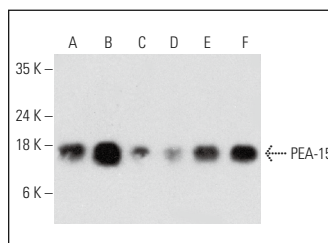
Molecular Weight of PEA-15: 15 kDa.

Positive Controls: U-87 MG cell lysate: sc-2411, T-47D cell lysate: sc-2293 or Neuro-2A whole cell lysate: sc-364185.

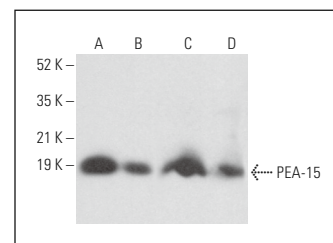
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PEA-15 (H-3): sc-166678. Western blot analysis of PEA-15 expression in T-47D (A), WI-38 (B), Neuro-2A (C), EOC 20 (D), C6 (E) and H19-7/IGF-IR (F) whole cell lysates.



PEA-15 (H-3): sc-166678. Western blot analysis of PEA-15 expression in U-87 MG (A), ARPE-19 (B), T-47D (C) and Neuro-2A (D) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

SELECT PRODUCT CITATIONS

- Gawecka, J.E., et al. 2012. PEA-15 impairs cell migration and correlates with clinical features predicting good prognosis in neuroblastoma. *Int. J. Cancer* 131: 1556-1568.
- Sulzmaier, F.J., et al. 2012. PEA-15 potentiates H-Ras-mediated epithelial cell transformation through phospholipase D. *Oncogene* 31: 3547-3560.
- Elliott, B., et al. 2019. Essential role of JunD in cell proliferation is mediated via Myc signaling in prostate cancer cells. *Cancer Lett.* 448: 155-167.
- Mori, Y., et al. 2021. Cdc42 is required for male germline niche development in mice. *Cell Rep.* 36: 109550.
- Caliva, M.J., et al. 2021. Proteomics analysis identifies PEA-15 as an endosomal phosphoprotein that regulates $\alpha 5 \beta 1$ integrin endocytosis. *Sci. Rep.* 11: 19830.

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 for detailed protocols and support products.

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