

AKAP 150 (E-1): sc-377055



The Power to Question

BACKGROUND

The type II cAMP-protein kinase (PKA) is a multifunctional kinase with a broad range of substrates. Specificity of PKA signaling is thought to be mediated by the compartmentalization of the kinase to specific sites within the cell. To maintain this specific localization, the R subunit (RII) of PKA interacts with specific RII-anchoring proteins. This family of proteins has been designated A-kinase anchoring proteins (AKAP). Members of this family, including MAP2 (microtubule-associated protein 2), neuronally expressed AKAP 79 and AKAP 150, and the DNA binding AKAP 95, display differential tissue specificity and localization. Evidence suggests that AKAP 79 and AKAP 150 are both capable of anchoring PKA to postsynaptic densities (PSD), which are a network of proteins located on the internal surfaces of excitatory synapses.

CHROMOSOMAL LOCATION

Genetic locus: Akap5 (mouse) mapping to 12 C3.

SOURCE

AKAP 150 (E-1) is a mouse monoclonal antibody raised against amino acids 267-478 of AKAP 150 of rat 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.

AKAP 150 (E-1) is available conjugated to agarose (sc-377055 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377055 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377055 PE), fluorescein (sc-377055 FITC), Alexa Fluor® 488 (sc-377055 AF488), Alexa Fluor® 546 (sc-377055 AF546), Alexa Fluor® 594 (sc-377055 AF594) or Alexa Fluor® 647 (sc-377055 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377055 AF680) or Alexa Fluor® 790 (sc-377055 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

AKAP 150 (E-1) is recommended for detection of AKAP 150 of mouse and rat 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).

Suitable for use as control antibody for AKAP 150 siRNA (m): sc-29659, AKAP 150 shRNA Plasmid (m): sc-29659-SH and AKAP 150 shRNA (m) Lentiviral Particles: sc-29659-V.

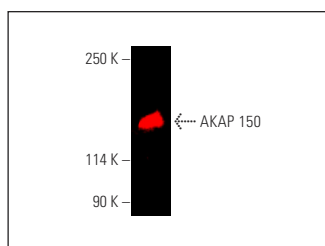
Molecular Weight of AKAP 150: 150 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

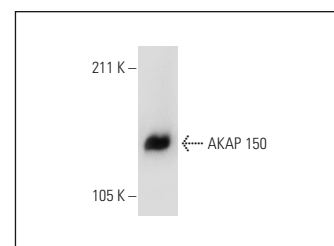
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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 BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



AKAP 150 (E-1): sc-377055. Near-Infrared western blot analysis of AKAP 150 expression in rat brain tissue extract. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG₁ BP-CFL 790: sc-533666.



AKAP 150 (E-1): sc-377055. Western blot analysis of AKAP 150 expression in rat brain tissue extract.

SELECT PRODUCT CITATIONS

- Kay, H.Y., et al. 2015. M-current preservation contributes to anticonvulsant effects of valproic acid. *J. Clin. Invest.* 125: 3904-3914.
- Guinzberg, R., et al. 2017. Newly synthesized cAMP is integrated at a membrane protein complex signalosome to ensure receptor-response specificity. *FEBS J.* 284: 258-276.
- Zhao, X., et al. 2020. PKCε SUMOylation is required for mediating the nociceptive signaling of inflammatory pain. *Cell Rep.* 33: 108191.
- Zhang, X., et al. 2022. Interaction between A-kinase anchoring protein 5 and protein kinase A mediates CaMKII/HDAC signaling to inhibit cardiomyocyte hypertrophy after hypoxic reoxygenation. *Cell. Signal.* 103: 110569.
- Wang, Z., et al. 2022. A-kinase anchoring protein 5 anchors protein kinase A to mediate PLN/SERCA to reduce cardiomyocyte apoptosis induced by hypoxia and reoxygenation. *Biochem. Cell Biol.* 100: 162-170.
- Li, J.B., et al. 2023. p85S6K sustains synaptic GluA1 to ameliorate cognitive deficits in Alzheimer's disease. *Transl. Neurodegener.* 12: 1.
- Li, M.D., et al. 2023. DHHC2 regulates fear memory formation, LTP, and AKAP150 signaling in the hippocampus. *iScience* 26: 107561.
- Zhang, T., et al. 2023. The expression of Epac2 and GluA3 in an Alzheimer's disease experimental model and postmortem patient samples. *Biomedicines* 11: 2096.

RESEARCH USE

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