

# APPBP1 (C-2): sc-390002

## BACKGROUND

APPBP1 ( $\beta$ -Amyloid precursor protein-binding protein 1), also known as NAE1 (NEDD8-activating enzyme E1 regulatory subunit 1), HPP1 or ula-1, is a member of the ubiquitin-activating E1 family. In fetal tissues APPBP1 is widely expressed and in adult tissues it is expressed throughout the brain. APPBP1 is a cell membrane associated protein and functions as the regulatory subunit in a heterodimer with UBA3. The APPBP1/UBA3 complex binds to and activates NEDD8, a ubiquitin-like protein involved in signal transduction, cell proliferation and development. This suggests that APPBP1 affects a variety of cellular functions. In addition, APPBP1 is essential for cell cycle progression through the S/M checkpoint. More specifically, it inhibits the entry into S phase and promotes entry into M phase.

## REFERENCES

1. Walden, H., et al. 2003. The structure of the APPBP1-UBA3-NEDD8-ATP complex reveals the basis for selective ubiquitin-like protein activation by an E1. *Mol. Cell* 12: 1427-1437.
2. Bohnsack, R.N. and Haas, A.L. 2003. Conservation in the mechanism of Nedd8 activation by the human APPBP1-UBA3 heterodimer. *J. Biol. Chem.* 278: 26823-26830.
3. Huang, D.T., et al. 2004. A unique E1-E2 interaction required for optimal conjugation of the ubiquitin-like protein NEDD8. *Nat. Struct. Mol. Biol.* 11: 927-935.
4. Narasimhan, J., et al. 2005. Crystal structure of the interferon-induced ubiquitin-like protein ISG15. *J. Biol. Chem.* 280: 27356-27365.

## CHROMOSOMAL LOCATION

Genetic locus: NAE1 (human) mapping to 16q22.1; Nae1 (mouse) mapping to 8 D3.

## SOURCE

APPBP1 (C-2) is a mouse monoclonal antibody raised against amino acids 161-347 mapping within an internal region of APPBP1 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.

APPBP1 (C-2) is available conjugated to agarose (sc-390002 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390002 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390002 PE), fluorescein (sc-390002 FITC), Alexa Fluor<sup>®</sup> 488 (sc-390002 AF488), Alexa Fluor<sup>®</sup> 546 (sc-390002 AF546), Alexa Fluor<sup>®</sup> 594 (sc-390002 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-390002 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-390002 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-390002 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## RESEARCH USE

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

## APPLICATIONS

APPBP1 (C-2) is recommended for detection of APPBP1 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 APPBP1 siRNA (h): sc-77421, APPBP1 siRNA (m): sc-72524, APPBP1 shRNA Plasmid (h): sc-77421-SH, APPBP1 shRNA Plasmid (m): sc-72524-SH, APPBP1 shRNA (h) Lentiviral Particles: sc-77421-V and APPBP1 shRNA (m) Lentiviral Particles: sc-72524-V.

Molecular Weight of APPBP1 membrane associated form: 65 kDa.

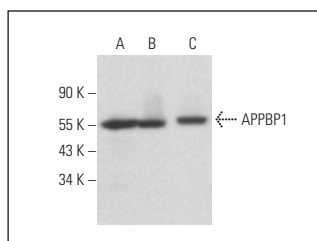
Molecular Weight of APPBP1 cytosolic form: 59 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or T98G cell lysate: sc-2294.

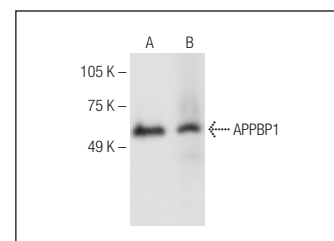
## RECOMMENDED SUPPORT REAGENTS

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



APPBP1 (C-2): sc-390002. Western blot analysis of APPBP1 expression in HeLa (A) and K-562 (B) whole cell lysates and rat brain tissue extract (C).



APPBP1 (C-2): sc-390002. Western blot analysis of APPBP1 expression in HeLa (A) and T98G (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Du, M.G., et al. 2021. The absence of PTEN in breast cancer is a driver of MLN4924 resistance. *Front. Cell Dev. Biol.* 9: 667435.
2. Murali, S.K., et al. 2021. Potassium effects on NCC are attenuated during inhibition of Cullin E3-ubiquitin ligases. *Cells* 11: 95.

## STORAGE

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