

p55 (A-7): sc-374506

BACKGROUND

P55 is an extensively palmitoylated erythrocyte membrane protein, and a member of the MAGUK family. P55 also resists salt extraction, resulting in a high affinity for the plasma membrane. P55 contains a PDZ/DHR domain, a conserved SH-3 domain that appears to suppress tyrosine kinase activity of various oncoproteins, a 39-amino acid motif that binds to cytoskeletal protein 4.1R, and a guanylate kinase-like domain. Interaction with glycophorin C (GPC) and 4.1R suggests that p55 may play a role in the dynamic regulation in the erythrocyte membrane. In addition, p55 gene expression *in vivo* may be associated with a CpG island. P55 is constitutively expressed in K-562 erythroleukemia cells during erythropoiesis and undergoes a 2-fold amplification after induction.

REFERENCES

1. Ruff, P., et al. 1991. Molecular identification of a major palmitoylated erythrocyte membrane protein containing the src homology 3 motif. *Proc. Natl. Acad. Sci. USA* 88: 6595-6599.
2. Das, A.K., et al. 1992. Fatty acylation of a 55 kDa membrane protein of human erythrocytes. *Biochem. Biophys. Acta* 1108: 128-132.
3. Marfatia, S.M., et al. 1995. Identification of the protein 4.1 binding interface on glycophorin C and p55, a homologue of the *Drosophila* discs-large tumor suppressor protein. *J. Biol. Chem.* 270: 715-719.
4. Kim, A.C., et al. 1996. Complete genomic organization of the human erythroid p55 gene (MPP1), a membrane-associated guanylate kinase homologue. *Genomics* 31: 223-229.

CHROMOSOMAL LOCATION

Genetic locus: MPP1 (human) mapping to Xq28; Mpp1 (mouse) mapping to X A7.3.

SOURCE

p55 (A-7) is a mouse monoclonal antibody raised against amino acids 320-376 mapping within an internal region of erythrocyte membrane protein p55 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

p55 (A-7) is available conjugated to agarose (sc-374506 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374506 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374506 PE), fluorescein (sc-374506 FITC), Alexa Fluor® 488 (sc-374506 AF488), Alexa Fluor® 546 (sc-374506 AF546), Alexa Fluor® 594 (sc-374506 AF594) or Alexa Fluor® 647 (sc-374506 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374506 AF680) or Alexa Fluor® 790 (sc-374506 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

p55 (A-7) is recommended for detection of erythrocyte membrane protein p55 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).

Suitable for use as control antibody for p55 siRNA (h2): sc-156153, p55 siRNA (m): sc-42009, p55 shRNA Plasmid (h2): sc-156153-SH, p55 shRNA Plasmid (m): sc-42009-SH, p55 shRNA (h2) Lentiviral Particles: sc-156153-V and p55 shRNA (m) Lentiviral Particles: sc-42009-V.

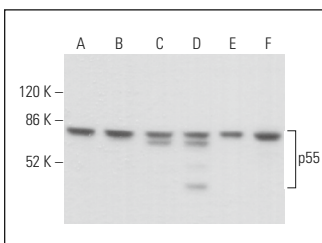
Molecular Weight of p55: 55 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, CCRF-CEM cell lysate: sc-2225 or M1 whole cell lysate: sc-364782.

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



p55 (A-7): sc-374506. Western blot analysis of p55 expression in K-562 (A), HEL 92.1.7 (B), CCRF-CEM (C), SUP-T1 (D), M1 (E) and C3H/10T1/2 (F) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Alla, J.A., et al. 2023. Identification of membrane palmitoylated protein 1 (MPP1) as a heart-failure-promoting protein triggered by cardiovascular risk factors and aging. *Biochem. Pharmacol.* 217: 115789.

RESEARCH USE

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

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