

# protein 4.2 (H-52): sc-366146

## BACKGROUND

Protein 4.2, also known as erythrocyte membrane protein band 4.2, is a 691 amino acid transmembrane protein, which possibly regulates mechanical and morphological properties of erythrocytes. Protein 4.2 functions to strongly influence CD47 levels and also regulate the association between Ankyrin and protein 3. Appearing on erythroblasts at a very late stage of red blood cell development, protein 4.2 is predominantly found in liver and is also expressed in spleen, stomach, testis and eye. One of several members of the transglutaminase family, protein 4.2 is subject to a loss of function caused by an amino acid substitution from Cys to Ala in the active site. Complete or partial protein 4.2 absence leads to a weaker than usual association of ankyrin to the membrane skeleton. Defects in the gene encoding protein 4.2 are the cause of hereditary spherocytosis, a hematologic disorder characterized by abnormally shaped erythrocytes and chronic hemolytic anemia. A short and long isoform of protein 4.2 exist as a result of an alternative splicing event. The short isoform is characterized as the major protein 4.2 species in human erythrocyte membranes.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: EPB42 (human) mapping to 15q15.2; Epb4.2 (mouse) mapping to 2 E5.

## SOURCE

protein 4.2 (H-52) is a rabbit polyclonal antibody raised against amino acids 232-283 mapping within an internal region of protein 4.2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

protein 4.2 (H-52) is recommended for detection of protein 4.2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

protein 4.2 (H-52) is also recommended for detection of protein 4.2 in additional species, including equine.

Suitable for use as control antibody for protein 4.2 siRNA (h): sc-90233, protein 4.2 shRNA Plasmid (h): sc-90233-SH and protein 4.2 shRNA (h) Lentiviral Particles: sc-90233-V.

Molecular Weight of protein 4.2 short isoform: 72 kDa.

Molecular Weight of protein 4.2 long isoform: 75 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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) or our catalog for detailed protocols and support products.