

EPB41 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP55057

Product Information

Application WB, IHC-P, IHC-F, IF, ICC, E

Primary Accession P11171

Reactivity Rat, Pig, Recombinant Fragment, Bovine

Host Rabbit
Clonality Polyclonal
Calculated MW 97017
Physical State Liquid

Immunogen KLH conjugated synthetic peptide derived from human EPB41/4.1R

Epitope Specificity 751-864/864

Isotype IgG

Purity affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Cytoplasm > cytoskeleton. Cytoplasm > cell cortex. Nucleus.

SIMILARITY Contains 1 FERM domain.

SUBUNITBinds with a high affinity to glycophorin and with lower affinity to band III

protein. Associates with the nuclear mitotic apparatus. Binds calmodulin, CENPJ and DLG1. Also found to associate with contractile apparatus and tight

junctions.

Post-translationalPhosphorylated at multiple sites by different protein kinases and each phosphorylation event selectively modulates the protein's functions.

phosphorylation event selectively modulates the protein's functions. Phosphorylation on Tyr-660 reduces the ability of 4.1 to promote the

assembly of the spectrin/actin/4.1 ternary complex. O-glycosylated; contains

N-acetylglucosamine side chains in the C-terminal domain.

DISEASE Defects in EPB41 are the cause of elliptocytosis type 1 (EL1) [MIM:611804].

EL1 is a Rhesus-linked form of hereditary elliptocytosis, a genetically heterogeneous, autosomal dominant, hematologic disorder. It is

characterized by variable hemolytic anemia and elliptical or oval red cell shape. Defects in EPB41 are a cause of hereditary pyropoikilocytosis (HPP) [MIM:266140]. HPP is an autosomal recessive hematologic disorder

characterized by hemolytic anemia, microspherocytosis, poikilocytosis, and an

unusual thermal sensitivity of red cells.

Important Note This product as supplied is intended for research use only, not for use in

human, therapeutic or diagnostic applications.

Background Descriptions The 4.1 gene family encodes a group of multifunctional cytoskeletal proteins

(4.1R, 4.1G, 4.1N and 4.1B), which are predominantly expressed in the nervous system. 4.1G is a protein that stabilizes spectrin-actin interactions and is associated with hereditary elliptocytosis. Red blood cell 4.1, designated 4.1R, is a multifunctional protein that is essential for maintaining erythrocyte

shape and membrane mechanical properties. Both 4.1R and 4.1G are distributed in a unique pattern in the cerebellum and are believed to modulate the membrane mechanical properties of neuronal cells by

promoting fodrin/actin association. 4.1N and 4.1B, designated EPB41L1 and EPB41L3, respectively, are strongly expressed in the brain. Antibodies to 4.1N

have been reported to detect mulitple forms, each enriched in postsynaptic density preparations relative to brain homogenate. Antibodies to 4.1B have been reported to detect two forms.

Additional Information

Gene ID 2035

Other Names Protein 4.1, P4.1, 4.1R, Band 4.1, EPB4.1, Erythrocyte membrane protein band

4.1 {ECO:0000312 | HGNC:HGNC:3377}, EPB41 (HGNC:3377), E41P

Dilution WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-50

0,ELISA=1:5000-10000

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody

is stable for at least two weeks at 2-4 °C.

Protein Information

Name EPB41 (HGNC:3377)

Synonyms E41P

Function Protein 4.1 is a major structural element of the erythrocyte membrane

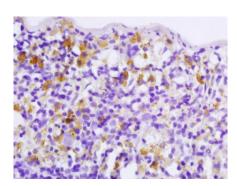
skeleton. It plays a key role in regulating membrane physical properties of mechanical stability and deformability by stabilizing spectrin-actin interaction. Recruits DLG1 to membranes. Required for dynein-dynactin complex and

NUMA1 recruitment at the mitotic cell cortex during anaphase

(PubMed:23870127).

Cellular Location Cytoplasm, cytoskeleton. Cytoplasm, cell cortex. Nucleus

Images



Tissue/cell: rat spleen tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min;

Incubation: Anti-EPB41 Polyclonal Antibody,

Unconjugated(AP55057) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

 $Please\ note: All\ products\ are\ 'FOR\ RESEARCH\ USE\ ONLY.\ NOT\ FOR\ USE\ IN\ DIAGNOSTIC\ OR\ THERAPEUTIC\ PROCEDURES'.$