

Codanin-1 (G-1): sc-365839

BACKGROUND

The congenital dyserythropoietic anemias (CDAs) are an uncommon and heterogeneous group of disorders that are characterized by markedly ineffective erythropoiesis and, usually, striking dysplastic changes in erythroblasts. Congenital dyserythropoietic anemia type 1 (CDA1) is a rare autosomal recessive disorder with ineffective erythropoiesis, characteristic morphological abnormalities of erythroblasts and iron overloading. CDA1 is caused by mutations in the CDAN1 gene, which maps to chromosome 15q15.2 and encodes the 1,227 amino acid protein Codanin-1. Codanin-1 has a 150 residue N-terminal domain with sequence similarity to collagens and 2 shorter segments that show weak similarities to the microtubule-associated proteins synapsin and MAP-1B (neuraxin). Research indicates that Codanin-1 may be involved in nuclear envelope integrity, conceivably related to microtubule attachments. Skeletal anomalism has been associated with mutations of CDAN1, indicating that Codanin-1 may play a role in the development of the skeleton.

REFERENCES

1. Tamary, H., et al. 1996. Clinical features and studies of erythropoiesis in Israeli Bedouins with congenital dyserythropoietic anemia type I. *Blood* 87: 1763-1770.
2. Dgany, O., et al. 2002. Congenital dyserythropoietic anemia type 1 is caused by mutations in Codanin-1. *Am. J. Hum. Genet.* 71: 1467-1474.
3. Pielage, J., et al. 2003. The *Drosophila* cell survival gene discs lost encodes a cytoplasmic Codanin-1-like protein, not a homolog of tight junction PDZ protein Patj. *Dev. Cell* 5: 841-851.
4. Delaunay, J. 2003. Red cell membrane and erythropoiesis genetic defects. *Hematol. J.* 4: 225-232.

CHROMOSOMAL LOCATION

Genetic locus: CDAN1 (human) mapping to 15q15.2; Cdan1 (mouse) mapping to 2 E5.

SOURCE

Codanin-1 (G-1) is a mouse monoclonal antibody raised against amino acids 780-1080 mapping near the C-terminus of Codanin-1 of human 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.

Codanin-1 (G-1) is available conjugated to agarose (sc-365839 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365839 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365839 PE), fluorescein (sc-365839 FITC), Alexa Fluor® 488 (sc-365839 AF488), Alexa Fluor® 546 (sc-365839 AF546), Alexa Fluor® 594 (sc-365839 AF594) or Alexa Fluor® 647 (sc-365839 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365839 AF680) or Alexa Fluor® 790 (sc-365839 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Codanin-1 (G-1) is recommended for detection of Codanin-1 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 Codanin-1 siRNA (h): sc-62132, Codanin-1 siRNA (m): sc-62133, Codanin-1 shRNA Plasmid (h): sc-62132-SH, Codanin-1 shRNA Plasmid (m): sc-62133-SH, Codanin-1 shRNA (h) Lentiviral Particles: sc-62132-V and Codanin-1 shRNA (m) Lentiviral Particles: sc-62133-V.

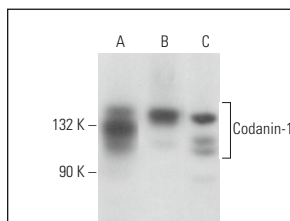
Molecular Weight of Codanin-1: 134 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285, NIH/3T3 whole cell lysate: sc-2210 or PC-3 cell lysate: sc-2220.

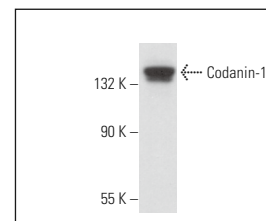
RECOMMENDED SUPPORT REAGENTS

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



Codanin-1 (G-1): sc-365839. Western blot analysis of Codanin-1 expression in MIA PaCa-2 (A), PC-3 (B) and NIH/3T3 (C) whole cell lysates.



Codanin-1 (G-1): sc-365839. Western blot analysis of Codanin-1 expression in M1 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Swickley, G., et al. 2020. Characterization of the interactions between Codanin-1 and C150rf41, two proteins implicated in congenital dyserythropoietic anemia type I disease. *BMC Mol. Cell Biol.* 21: 18.

STORAGE

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

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