SANTA CRUZ BIOTECHNOLOGY, INC.

cerberus (C-1): sc-515324

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The cerberus (Cer1, Cer-1 or Cerr) protein is a member of the cysteine knot superfamily and is expressed in anterior regions of the gastrula. Cerberus induces the differentiation of structural components in the head during embryonic development. A segmental pattern of expression of cerberus is also observed in nascent and newly formed somites. This suggests an additional role in development of the axial skeleton, musculature and peripheral nervous system. Cerberus is secreted and functions in the surrounding extracellular space by inhibiting signaling molecules. The neural-inducing and mesoderm-inhibiting activities of cerberus result from specific binding of cerberus to BMP and Nodal molecules, respectively. In mouse, cerberus is expressed in the anterior mesendoderm that underlies the presumptive anterior neural plate.

REFERENCES

1. Agius, P.E., Piccolo, S. and De Robertis, E.M. 1999. The head inducer cerberus in a multivalent extracellular inhibitor. J. Soc. Biol. 193: 347-354.
2. Simpson, E.H., Johnson, D.K., Hunsicker, P., Suffolk, R., Jordan, S.A. and Jackson, I.J. 1999. The mouse Cer1 (cerberus related or homologue) gene is not required for anterior pattern formation. Dev. Biol. 213: 202-206.
3. Shawlot, W., Min Deng, J., Wakamiya, M. and Behringer, R.R. 2000. The cerberus-related gene, Cerr1, is not essential for mouse head formation. Genesis 26: 253-258.

CHROMOSOMAL LOCATION

Genetic locus: CER1 (human) mapping to 9p22.3; Cer1 (mouse) mapping to 4 C3.

SOURCE

cerberus (C-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 152-175 within an internal region of cerberus 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.

cerberus (C-1) is available conjugated to agarose (sc-515324 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515324 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515324 PE), fluorescein (sc-515324 FITC), Alexa Fluor® 488 (sc-515324 AF488), Alexa Fluor® 546 (sc-515324 AF546), Alexa Fluor® 594 (sc-515324 AF594) or Alexa Fluor® 647 (sc-515324 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515324 AF680) or Alexa Fluor® 790 (sc-515324 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-515324 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

cerberus (C-1) is recommended for detection of cerberus 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 cerberus siRNA (h): sc-39406, cerberus siRNA (m): sc-39407, cerberus shRNA Plasmid (h): sc-39406-SH, cerberus shRNA Plasmid (m): sc-39407-SH, cerberus shRNA (h) Lentiviral Particles: sc-39406-V and cerberus shRNA (m) Lentiviral Particles: sc-39407-V.

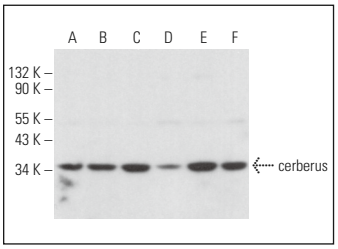
Molecular Weight of cerberus: 38 kDa.

Positive Controls: NCI-H460 whole cell lysate: sc-364235, T24 cell lysate: sc-2292 or HeLa whole cell lysate: sc-2200.

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



cerberus (C-1): sc-515324. Western blot analysis of cerberus expression in HeLa (**A**), NCI-H460 (**B**), T24 (**C**), F9 (**D**), TK-1 (**E**) and Y79 (**F**) whole cell lysates.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.