SANTA CRUZ BIOTECHNOLOGY, INC.

CDR2 (W-12): sc-100320

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CDR2 (cerebellar degeneration-related protein 2), also referred to as Yo or CDR62, is a 545 amino acid protein that is associated with the development of paraneoplastic cerebellar degeneration (PCD). PCD, an immune-mediated syndrome, belongs to a heterogeneous group of rare paraneoplastic neurologic disorders affecting the neurological system. PCD is characterized by subacute cerebellar ataxia and occurs mainly in patients with ovarian, uterine, fallopian tube or breast cancer. Patients with ovarian or breast cancer develop an immune response against cancer cell-expressed CDR2 and Purkinje neuron-expressed CDR2. The presence of the anti-CDR2 antibody in patients with PCD symptoms warrants an aggressive approach to diagnosis and treatment of the underlying cancer.

REFERENCES

1. Siniscalco, M., et al. 1991. Physical and genetic mapping of the CDR gene with particular reference to its position with respect to the FRAXA site. Am. J. Med. Genet. 38: 357-362.
2. Peterson, K., et al. 1992. Paraneoplastic cerebellar degeneration. I. A clinical analysis of 55 anti-Yo antibody-positive patients. Neurology 42: 1931-1937.
3. Tanaka, M., et al. 1995. Trial to establish an animal model of paraneoplastic cerebellar degeneration with anti-Yo antibody. 1. Mouse strains bearing different MHC molecules produce antibodies on immunization with recombinant Yo protein, but do not cause Purkinje cell loss. Clin. Neurol. Neurosurg. 97: 95-100.
4. Giometto, B., et al. 1997. Sub-acute cerebellar degeneration with anti-Yo autoantibodies: immunohistochemical analysis of the immune reaction in the central nervous system. Neuropathol. Appl. Neurobiol. 23: 468-474.
5. Tanaka, M., et al. 1998. Cytotoxic T cells react with recombinant Yo protein from a patient with paraneoplastic cerebellar degeneration and anti-Yo antibody. J. Neurol. Sci. 161: 88-90.
6. Shams'ili, S., et al. 2003. Paraneoplastic cerebellar degeneration associated with antineuronal antibodies: analysis of 50 patients. Brain 126: 1409-1418.
7. Stich, O., et al. 2003. Qualitative evidence of anti-Yo-specific intrathecal antibody synthesis in patients with paraneoplastic cerebellar degeneration. J. Neuroimmunol. 141: 165-169.

CHROMOSOMAL LOCATION

Genetic locus: CDR2 (human) mapping to 16p12.2.

SOURCE

CDR2 (W-12) is a mouse monoclonal antibody raised against recombinant CDR2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

CDR2 (W-12) is recommended for detection of CDR2 of human origin by Western Blotting (starting dilution 1:200, 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 CDR2 siRNA (h): sc-93501, CDR2 shRNA Plasmid (h): sc-93501-SH and CDR2 shRNA (h) Lentiviral Particles: sc-93501-V.

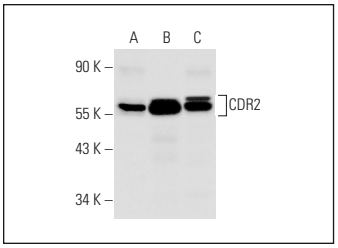
Molecular Weight of CDR2: 62 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

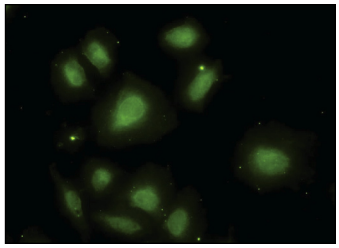
RECOMMENDED SUPPORT REAGENTS

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



CDR2 (W-12): sc-100320. Western blot analysis of CDR2 expression in HeLa (**A**), Hep G2 (**B**) and K-562 (**C**) whole cell lysates.



CDR2 (W-12): sc-100320. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Totland, C., et al. 2011. CDR2 antigen and Yo antibodies. Cancer Immunol. Immunother. 60: 283-289.
2. Herdlevaer, I., et al. 2020. Localization of CDR2L and CDR2 in paraneoplastic cerebellar degeneration. Ann. Clin. Transl. Neurol. 7: 2231-2242.
3. Mo, J.S. and Chae, S.C. 2021. MicroRNA 452 regulates ASB8, NOL8, and CDR2 expression in colorectal cancer cells. Genes Genomics 43: 33-41.

STORAGE

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