SANTA CRUZ BIOTECHNOLOGY, INC.

IgD chain C (E-11): sc-393537

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IgD chain C (Ig δ chain C region) is an allelic product of the human IGHD gene. The two known IGHD alleles, IGHD*01 and IGHD*02, respectively produce isoforms 1, a secreted protein, and 2, a single-pass type I membrane protein. A member of the adaptive immune system, IgD antibodies are monomers expressed by activated B cells. Containing three Ig-like (immunoglobulin-like) domains, IgD chain C is located on chromosome 14 within the human heavy chain locus, lying on the 3' side of the IgM chain C region from the V-D-J cassette. Polyadenylation at certain sites along the heavy chain locus likely effects the mechanism that determines the alternative splicing event which results in the expression of either IgD chain C or IgM chain C. Some studies have suggested that antigenic coactivation of IgD^+ B cells can have a negative influence on bone resorption during infectious events.

REFERENCES

1. Lin, L.C. and Putnam, F.W. 1981. Primary structure of the Fc region of human immunoglobulin D: implications for evolutionary origin and biological function. Proc. Natl. Acad. Sci. USA 78: 504-508.
2. Shinoda, T., et al. 1981. Complete amino acid sequence of the Fc region of a human δ chain. Proc. Natl. Acad. Sci. USA 78: 785-789.
3. Bassing, C.H., et al. 2003. T cell receptor (TCR) α/δ locus enhancer identity and position are critical for the assembly of TCR δ and α variable region genes. Proc. Natl. Acad. Sci. USA 100: 2598-2603.
4. Morabito, F., et al. 2009. Prognostic relevance of *in vitro* response to cell stimulation via surface IgD in binet stage a CLL. Br. J. Haematol. 149: 160-163.
5. Baker, P.J., et al. 2009. B cell IgD deletion prevents alveolar bone loss following murine oral infection. Interdiscip. Perspect. Infect. Dis. 2009: 864359.
6. Seifert, M. and Küppers, R. 2009. Molecular footprints of a germinal center derivation of human $IgM^+(IgD^+)CD27^+$ B cells and the dynamics of memory B cell generation. J. Exp. Med. 206: 2659-2669.
7. Chen, R., et al. 2009. Glycoproteomics analysis of human liver tissue by combination of multiple enzyme digestion and hydrazide chemistry. J. Proteome Res. 8: 651-661.
8. Jacobsen, J.T., et al. 2010. The cellular mechanism by which complementary Id^+ and anti-Id antibodies communicate: T cells integrated into idiotypic regulation. Immunol. Cell Biol. 88: 515-522.

CHROMOSOMAL LOCATION

Genetic locus: IGHD (human) mapping to 14p13.

SOURCE

IgD chain C (E-11) is a mouse monoclonal antibody raised against amino acids 284-350 mapping near the C-terminus of IgD 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.

APPLICATIONS

IgD chain C (E-11) is recommended for detection of IgD of 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).

Molecular Weight of IgD heavy δ chain: 44-80 kDa.

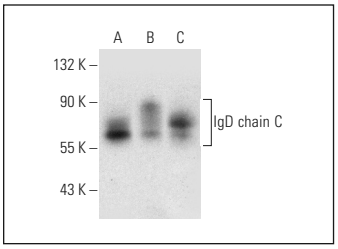
Molecular Weight of IgD light κ/λ chain: 21-25 kDa.

Positive Controls: Ramos cell lysate: sc-2216, NAMALWA cell lysate: sc-2234 or U-698-M whole cell lysate: sc-364799.

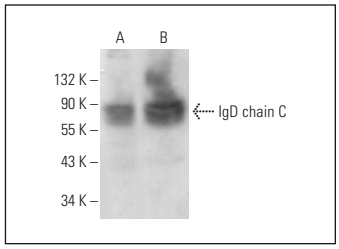
RECOMMENDED SUPPORT REAGENTS

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



IgD chain C (E-11): sc-393537. Western blot analysis of IgD chain C expression in Ramos (**A**), NAMALWA (**B**) and U-698-M (**C**) whole cell lysates.



IgD chain C (E-11): sc-393537. Western blot analysis of IgD chain C expression in U-698-M (**A**) and Daudi (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yang, X., et al. 2018. Long-term exposure to low-dose *Haemophilus influenzae* during allergic airway disease drives a steroid-resistant neutrophilic inflammation and promotes airway remodeling. Oncotarget 9: 24898-24913.
2. Li, L., et al. 2018. Microtubule associated protein 4 phosphorylation leads to pathological cardiac remodeling in mice. EBioMedicine 37: 221-235.

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.