SANTA CRUZ BIOTECHNOLOGY, INC.

Z39Ig (6H8): sc-53977

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell adhesion molecules (CAMs) influence cell growth, differentiation, embryogenesis, immune response and cancer metastasis by networking information from the extracellular matrix to the cell. The four major families of cell adhesion molecules are immunoglobulin (Ig) superfamily (calcium-independent transmembrane glycoproteins), integrins (transmembrane non-covalently linked heterodimers of α and β subunits), calcium-dependent cadherins and divalent cation-dependent selectins. Regulation of neuronal synaptic adhesion by CAMs has proven important for learning and memory. Proper embryonic morphogenic development is also heavily dependent on the regulation of cell adhesion molecules. Mutation of CAM genes has been linked to several forms of cancer, effecting tumor growth and metastasis. Z39Ig is an Ig domain cell adhesion molecule detected in all human tissue but mainly expressed in fetal human tissues, adult lungs and placenta. The Z39Ig gene is localized in the pericentromeric region of human chromosome X.

REFERENCES

1. Langnaese, K., et al. 2000. Cloning of Z39Ig, a novel gene with immunoglobulin-like domains located on human chromosome X. Biochim. Biophys. Acta 1492: 522-525.
2. Walker, M.G. 2002. Z39Ig is coexpressed with activated macrophage genes. Biochim. Biophys. Acta 1574: 387-390.
3. Ahn, J.H., et al. 2002. Identification of the genes differentially expressed in human dendritic cell subsets by cDNA subtraction and microarray analysis. Blood 100: 1742-1754.
4. Kim, J.K., et al. 2005. Characterization of monoclonal antibody specific to the Z39Ig protein, a member of immunoglobulin superfamily. Immunol. Lett. 99: 153-161.
5. Lee, M.Y., et al. 2006. Z39Ig is expressed on macrophages and may mediate inflammatory reactions in arthritis and atherosclerosis. J. Leukoc. Biol. 80: 922-928.

CHROMOSOMAL LOCATION

Genetic locus: VSIG4 (human) mapping to Xq12.

SOURCE

Z39Ig (6H8) is a mouse monoclonal antibody raised against Z39Ig-transfected HeLa cells of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Z39Ig (6H8) is available conjugated to agarose (sc-53977 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53977 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53977 PE), fluorescein (sc-53977 FITC), Alexa Fluor® 488 (sc-53977 AF488), Alexa Fluor® 546 (sc-53977 AF546), Alexa Fluor® 594 (sc-53977 AF594) or Alexa Fluor® 647 (sc-53977 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53977 AF680) or Alexa Fluor® 790 (sc-53977 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Z39Ig (6H8) is recommended for detection of Z39Ig of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for Z39Ig siRNA (h): sc-72190, Z39Ig shRNA Plasmid (h): sc-72190-SH and Z39Ig shRNA (h) Lentiviral Particles: sc-72190-V.

Molecular Weight of Z39Ig: 46 kDa.

Positive Controls: THP-1 cell lysate: sc-2238.

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) 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.

SELECT PRODUCT CITATIONS

1. Shang, Y., et al. 2012. The expression and anatomical distribution of BTLA and its ligand HVEM in rheumatoid synovium. Inflammation 35: 1102-1112.
2. Irvine, K.M., et al. 2016. CRIg-expressing peritoneal macrophages are associated with disease severity in patients with cirrhosis and ascites. JCI Insight 1: e86914.
3. Munawara, U., et al. 2019. Human dendritic cells express the complement receptor immunoglobulin which regulates T cell responses. Front. Immunol. 10: 2892.
4. Small, A.G., et al. 2021. Vitamin D upregulates the macrophage complement receptor immunoglobulin in innate immunity to microbial pathogens. Commun. Biol. 4: 401.
5. Small, A.G., et al. 2022. Neutrophils require activation to express functional cell-surface complement receptor immunoglobulin. Front. Immunol. 13: 840510.
6. Xiao, H., et al. 2022. High-throughput sequencing unravels the cell heterogeneity of cerebrospinal fluid in the bacterial meningitis of children. Front. Immunol. 13: 872832.

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.