SANTA CRUZ BIOTECHNOLOGY, INC.

Plasma Cell (LIV3G11): sc-53416

BACKGROUND

Plasma cells, which are large lymphocytes derived from an antigen-specific B cell, secrete antibodies and are responsible for humoral immunity. Plasma cells differentiate from B cells upon stimulation by $CD4^+$ lymphocytes. The B cell acts as an antigen presenting cell (APC), consuming an offending patho-gen, which is taken up by the B cell by phagocytosis and broken down within proteosomes. Plasma cells contain basophilic cytoplasm; their nucleus contains heterochromatin organized in a characteristic cartwheel arrangement. Most plasma cells travel to the bone marrow or spleen to secrete antibodies at a rate of approximately 10,000 per second. The lifespan of plasma cells is very short during the initial stage of immune response, however, they can survive and continue to secrete antibodies for much longer after the process of affinity maturation.

REFERENCES

1. Ching, C.K. and Rhodes, J.M. 1988. Identification and partial characterization of a new pancreatic cancer-related serum glycoprotein by sodium dodecyl sulfate-polyacrylamide gel electrophoresis and lectin blotting. Gastroenterology 95: 137-142.
2. Ching, C.K. and Rhodes, J.M. 1990. Purification and characterization of a peanut-agglutinin-binding pancreatic-cancer-related serum mucus glycoprotein. Int. J. Cancer 45: 1022-1027.
3. Slifka, M.K. and Ahmed, R. 1998. Long-lived plasma cells: a mechanism for maintaining persistent antibody production. Curr. Opin. Immunol. 10: 252-258.
4. McHeyzer-Williams, M.G. and Ahmed, R. 1999. B cell memory and the long-lived plasma cell. Curr. Opin. Immunol. 11: 172-179.
5. Calame, K.L. 2001. Plasma cells: finding new light at the end of B cell development. Nat. Immunol. 2: 1103-1108.
6. Manz, R.A., et al. 2002. Humoral immunity and long-lived plasma cells. Curr. Opin. Immunol. 14: 517-521.
7. Calame, K.L., et al. 2003. Regulatory mechanisms that determine the development and functio cells. Annu. Rev. Immunol. 21: 205-230.

SOURCE

Plasma Cell (LIV3G11) is a mouse monoclonal antibody raised against pancreatic cancer related serum mucin 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.

Plasma Cell (LIV3G11) is available conjugated to agarose (sc-53416 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53416 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53416 PE), fluorescein (sc-53416 FITC), Alexa Fluor® 488 (sc-53416 AF488), Alexa Fluor® 546 (sc-53416 AF546), Alexa Fluor® 594 (sc-53416 AF594) or Alexa Fluor® 647 (sc-53416 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53416 AF680) or Alexa Fluor® 790 (sc-53416 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Plasma Cell (LIV3G11) is recommended for detection of Plasma Cell of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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.

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.

PROTOCOLS

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

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