# SANTA CRUZ BIOTECHNOLOGY, INC.

# CD17 (Huly-m13/H018.3G-6.F5): sc-65253



# BACKGROUND

CD17 (also designated Lactosylceramide or LacCer) is an intermediate glycosphingolipid from the metabolism of higher gangliosides that localizes to sphingolipid-sterol rafts. CD17 is detectable in monocytes, granulocytes, basophils, platelets, a subset of peripheral B cells (CD19<sup>+</sup>) and tonsillar dendritic cells. It is rapidly downregulated on activated granulocytes and is upregulated on IL-2 activated T lymphocytes. CD17 binds to bacteria and may function in phagocytosis. VEGF-treated endothelial cells can produce CD17, which can then mediate signaling toward PECAM-1 expression and angiogenesis. Tumor necrosis factor  $\alpha$  (TNF $\alpha$ )-induced astrogliosis (astrocyte proliferation and glial fibrillary acidic protein (GFAP) upregulation) in response to neuroinflammation (i.e. spinal cord injury) causes an increase in intracellular levels of CD17. Aberrant levels of glycosphingolipids are a feature of cancer cells and may influence integrin clustering and internalization.

### REFERENCES

- Bhunia, A.K., Han, H., Snowden, A. and Chatterjee, S. 1996. Lactosylceramide stimulates Ras-GTP loading, kinases (MEK, Raf), p44 mitogen-activated protein kinase and c-Fos expression in human aortic smooth muscle cells. J. Biol. Chem. 271: 10660-10666.
- Bhunia, A.K., Han, H., Snowden, A. and Chatterjee, S. 1997. Redoxregulated signaling by lactosylceramide in the proliferation of human aortic smooth muscle cells. J. Biol. Chem. 272: 15642-15649.
- Yeh, L.H., Kinsey, A.M., Chatterjee, S. and Alevriadou, B.R. 2001. Lactosylceramide mediates shear-induced endothelial superoxide production and intercellular adhesion molecule-1 expression. J. Vasc. Res. 38: 551-559.
- Iwabuchi, K. and Nagaoka, I. 2002. Lactosylceramide-enriched glycosphingolipid signaling domain mediates superoxide generation from human neutrophils. Blood 100: 1454-1464.
- Li, X.M., Momsen, M.M., Brockman, H.L. and Brown, R.E. 2002. Lactosylceramide: effect of acyl chain structure on phase behavior and molecular packing. Biophys. J. 83: 1535-1546.
- 6. Gong, N., Wei, H., Chowdhury, S.H. and Chatterjee, S. 2004. Lactosylceramide recruits PKC  $\alpha/\epsilon$  and phospholipase A2 to stimulate PECAM-1 expression in human monocytes and adhesion to endothelial cells. Proc. Natl. Acad. Sci. USA 101: 6490-6495.
- Hummel, I., Klappe, K. and Kok, J.W. 2005. Upregulation of lactosylceramide synthase in Mdr-1 overexpressing human liver tumour cells. FEBS Lett. 579: 3381-3384.
- Sharma, D.K., Brown, J.C., Cheng, Z., Holicky, E.L., Marks, D.L. and Pagano, R.E. 2005. The glycosphingolipid, lactosylceramide, regulates β1 Integrin clustering and endocytosis. Cancer Res. 65: 8233-8241.
- Zhai, X., Li, X.M., Momsen, M.M., Brockman, H.L. and Brown, R.E. 2006. Lactosylceramide: lateral interactions with cholesterol. Biophys. J. 91: 2490-2500.

# **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

# SOURCE

CD17 (Huly-m13/H018.3G-6.F5) is a mouse monoclonal antibody raised against  $\beta$ -2-Microglobulin associated proteins from a detergent lysate of PBL of human origin.

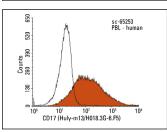
# PRODUCT

Each vial contains 100  $\mu g$  lgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

# **APPLICATIONS**

CD17 (Huly-m13/H018.3G-6.F5) is recommended for detection of CD17 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per 1 x 10<sup>6</sup> cells).

### DATA



CD17 (Huly-m13/H018.3G-6.F5): sc-65253. Indirect FCM analysis of human peripheral blood leukocytes stained with CD17 (Huly-m13/H018.3G-6.F5), followed by PEconjugated goat anti-mouse IgM: sc-3768. Black line histogram represents the isotype control, normal mouse IgM: sc-3881.

### SELECT PRODUCT CITATIONS

 Mondal, K., Grambergs, R.C., Gangaraju, R. and Mandal, N. 2022. A comprehensive profiling of cellular sphingolipids in mammalian endothelial and microglial cells cultured in normal and high-glucose conditions. Cells 11: 3082.

### **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.