CDgB
P032
1 μmol

■ **Known Property** B lymphocyte probe

■ **Application** Immunofluorescence

■ **Cell selectivity mechanism**: LOLD (lipid membrane fluidity)

■ **Storage** ① Delivery: Room Temperature

② Dried compound: 4 °C or -20 °C

③ Compound solution: 4 °C or -20 °C

■ ORDER

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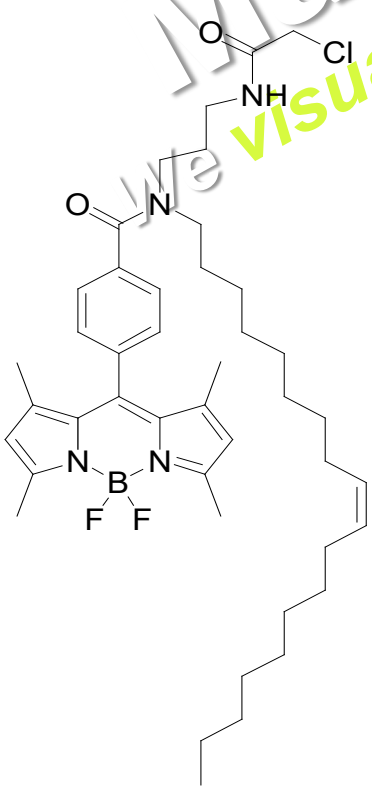
■ General Use Guide

More than 1/100 dilution of 10mM of DMSO stock solution is essential

For biomedical use to avoid DMSO concentration higher than 1%.

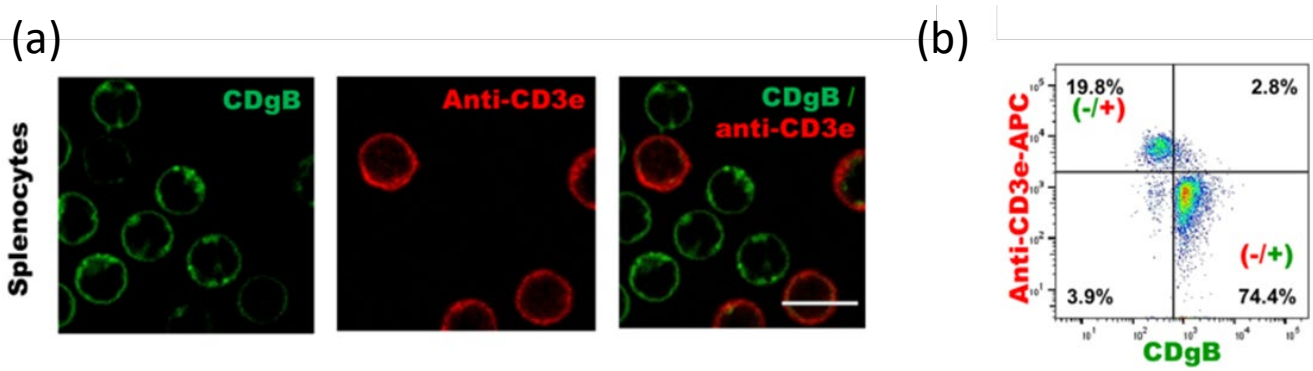
Working concentrations for specific applications should be determined by the investigator.

It is recommended to use up the buffer diluted solution within one day. The compound may be decomposed or precipitated out from buffer solution.



Molecular Weight	688.4 ($C_{45}H_{54}ClN_3O$)
λ_{ex} / λ_{em}	806 / 821 nm

CDgB (Compound of Designation green for B cell) is a selective fluorescent probe for B cell over T cell. B and T lymphocytes are similar in size and shape and it is practically impossible to distinguish them without the aid of antibody. CDgB is the first small molecule probe which distinguish B cell from T cell. **CDgB** has long hydrocarbon chain and the cell selectivity originates from the cell membrane lipid composition. In comparing to B cell, T cell has longer hydrocarbon in the plasma membrane lipid and also higher contents of cholesterol.



Development of the B-cell-selective probe **CDgB**. (a) Fluorescence images of double staining for **CDgB** (left) and anti-CD3e (middle). The images (right) are merged with CDgB (FITC) and anti-CD3e (Cy5). The splenocytes that **CDgB** stains are not overlapped with anti-CD3e for T cells. Scale bar: 10 μm. (b) Flow cytometry dot-plot image of double staining with anti-CD3e (right) for T cells and **CDgB** (FITC) on splenocytes.

Reference

1. **Lipid-Oriented Live-Cell Distinction of B and T Lymphocytes,** Kwon, H. Y.; Kumar Das, R.; Jung, G. T.; Lee, H. G.; Lee, S. H.; Berry, S. N.; Tan, J. K. S.; Park, S.; Yang, J. S.; Park, S.; Baek, K.; Park, K. M.; Lee, J. W.; Choi, Y. K.; Kim, K. H.; Kim, S.; Kim, K. P.; Kang, N. Y.*; Kim, K.*; Chang, Y. T.* J. Am. Chem. Soc. 2021, 143, 5836-5844.