SANTA CRUZ BIOTECHNOLOGY, INC.

PE (PE001): sc-53749

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phycoerythrin (PE) is a red protein isolated from cyanobacteria, red algae and cryptomonads. PE is from the light-harvesting phycobiliprotein family of water-soluble proteins that capture light energy which is then passed on to chlorophylls during photosynthesis. Phycobiliproteins consist of a complex between proteins and covalently bound phycobilins functioning as chromophores. PE has strong absorption peak around 566 nm, and a strong emission peak at about 575 nm. In algae, PE works an accessory pigment that captures the energy from light and passes it on to the main light-absorbing chlorophyll pigments that carry out photosynthesis. PE is a useful tool in the laboratory as a fluorescence-based indicator to visualize the presence of cyanobacteria and for labeling antibodies in immunofluorescence, among other applications.

REFERENCES

1. Guard-Friar, D., et al. 1985. Picosecond fluorescence of cryptomonad biliproteins. Effects of excitation intensity and the fluorescence decay times of phycocyanin 612, phycocyanin 645 and phycoerythrin 545. Biophys. J. 47: 787-793.
2. Volm, M., et al. 1989. Detection of the multidrug resistant phenotype in human tumours by monoclonal antibodies and the streptavidin-biotinylated phycoerythrin complex method. Eur. J. Cancer Clin. Oncol. 25: 743-749.
3. Ludwig, M. and Gibbs, S.P. 1989. Localization of phycoerythrin at the lumenal surf in Rhodomonas lens. J. Cell Biol. 108: 875-884.
4. MacColl, R., et al. 1990. Biliprotein light-harvesting strategies, phycoerythrin 566. Biochemistry 29: 430-435.
5. Wedemayer, G.J., et al. 1991. Phycobilins of cryptophycean algae. Structures of novel bilins with acryloyl substituents from phycoerythrin 566. J. Biol. Chem. 266: 4731-4741.
6. Dale, G.L. 1999. Rapid production of quasi-stable antibody-phycoerythrin conjugates for use in flow cytometry. Cytometry 33: 482-486.
7. Bermejo, R., et al. 2003. Fluorescent behavior of B-phycoerythrin in microemulsions of aerosol OT/water/isooctane. J. Colloid Interface Sci. 263: 616-624.
8. van der Weij-De Wit, C.D., et al. 2006. How energy funnels from the phycoerythrin antenna complex to photosystem I and photosystem II in cryptophyte Rhodomonas CS24 cells. J. Phys. Chem. B 110: 25066-25073.

SOURCE

PE (PE001) is a mouse monoclonal antibody raised against phycoerythrin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

PE (PE001) is recommended for detection of phycoerythrin by flow cytometry (1 µg per 1 x 10^6 cells).

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2012. Prohibitins are involved in protease-activated receptor 1-mediated platelet aggregation. J. Thromb. Haemost. 10: 411-418.
2. Li, C., et al. 2015. Rosiglitazone attenuates atherosclerosis and increases high-density lipoprotein function in atherosclerotic rabbits. Int. J. Mol. Med. 35: 715-723.

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.