SANTA CRUZ BIOTECHNOLOGY, INC.

GFP (GFP01): sc-57587

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The green fluorescent protein (GFP) was originally identified as a protein involved in the bioluminescence of the jellyfish *Aequorea victoria*. GFP cDNA produces a fluorescent product when expressed in prokaryotic cells, without the need for exogenous substrates or cofactors, making GFP a useful tool for monitoring gene expression and protein localization *in vivo*. Several GFP mutants have been developed, including EGFP, which fluoresce more intensely than the wildtype GFP and have shifted excitation maxima, making them useful for FACS and fluorescence microscopy as well as double-labeling applications. GFP is widely used in expression vectors as a fusion protein tag, allowing expression and monitoring of heterologous proteins fused to GFP.

REFERENCES

1. Prasher, D.C., Eckenrode, V.K., Ward, W.W., Prendergast, F.G. and Cormier, M.J. 1992. Primary structure of the *Aequorea victoria* green fluorescent protein. Gene 111: 229-233.
2. Chalfie, M., Tu, Y., Euskirchen, G., Ward, W.W. and Prasher, D.C. 1994. Green fluorescent protein as a marker for gene expression. Science 263: 802-805.
3. Inouye, S. and Tsuji, F.I. 1994. *Aequorea* green fluorescent protein. Expression of the gene and fluorescence characteristics of the recombinant protein. FEBS Lett. 341: 277-280.
4. Cormack, B.P., Valdivia, R.H. and Falkow, S. 1996. FACS-opitmized mutants of the green fluorescent protein (GFP). Gene 173: 33-38.
5. Rizzuto, R., Brini, M., De Giorgi, F., Rossi, R., Heim, R., Tsien, R.Y. and Pozzan, T. 1996. Double labelling of the subcellular structures with organelle-targeted GFP mutants *in vivo*. Curr. Biol. 6: 183-188.
6. Enoki, S., Saeki, K., Maki, K. and Kuwajima, K. 2004. Acid denaturation and refolding of green fluorescent protein. Biochemistry 43: 14238-14248.
7. Lehtinen, J., Nuutila, J. and Lilius, E.M. 2004. Green fluorescent protein-propidium iodide (GFP-PI) based assay for flow cytometric measurement of bacterial viability. Cytometry 60A: 165-172.
8. Gorokhovatsky, A.Y., Marchenkov, V.V., Rudenko, N.V., Ivashina, T.V., Ksenzenko, V.N., Burkhardt, N., Semisotnov, G.V., Vinokurov, L.M. and Alakhov, Y.B. 2004. Fusion of *Aequorea victoria* GFP and Aequorin provides their Ca^{2+}-induced interaction that results in red shift of GFP absorption and efficient bioluminescence energy transfer. Biochem. Biophys. Res. Commun. 320: 703-711.
9. Ishikura, H., Kondo, K., Miyoshi, T., Takahashi, Y., Fujino, H. and Monden, Y. 2004. Green fluorescent protein expression and visualization of mediastinal lymph node metastasis of human lung cancer cell line using orthotopic implantation. Anticancer Res. 24: 719-723.

SOURCE

GFP (GFP01) is a mouse monoclonal antibody raised against recombinant GFP.

PRODUCT

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

APPLICATIONS

GFP (GFP01) is recommended for detection of GFP and GFP fusion proteins by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Molecular Weight of GFP: 27 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

SELECT PRODUCT CITATIONS

1. Xi, J., Khalil, M., Spitkovsky, D., Hannes, T., Pfannkuche, K., Bloch, W., Saric, T., Brockmeier, K., Hescheler, J. and Pillekamp, F. 2011. Fibroblasts support functional integration of purified embryonic stem cell-derived cardiomyocytes into avital myocardial tissue. Stem Cells Dev. 20: 821-830.
2. Verma, S.C., Cai, Q., Kreider, E., Lu, J., Robertson, E.S., 2013. Comprehensive analysis of LANA interacting proteins essential for viral genome tethering and persistence. PLoS ONE 8: e74662.
3. Wayt, J. and Bretscher, A. 2014. Cordon Bleu serves as a platform at the basal region of microvilli, where it regulates microvillar length through its WH2 domains. Mol. Biol. Cell 25: 2817-2827.

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 or our catalog for detailed protocols and support products.