SANTA CRUZ BIOTECHNOLOGY, INC.

GFP (18A11): sc-69779

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., et al. 1992. Primary structure of the *Aequorea victoria* green fluorescent protein. Gene 111: 229-233.
2. Chalfie, M., et al. 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., et al. 1996. FACS-opitmized mutants of the green fluorescent protein (GFP). Gene 173: 33-38.
5. Rizzuto, R., et al. 1996. Double labelling of the subcellular structures with organelle-targeted GFP mutants *in vivo*. Curr. Biol. 6: 183-188.
6. Enoki, S., et al. 2004. Acid denaturation and refolding of green fluorescent protein. Biochemistry 43: 14238-14248.
7. Lehtinen, J., et al. 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., et al. 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., et al. 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 (18A11) is a mouse monoclonal antibody raised against recombinant GFP.

PRODUCT

Each vial contains IgG_1 in 100 µl 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

GFP (18A11) is recommended for detection of GFP by immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:30-1:5000).

Molecular Weight of GFP: 27 kDa.

SELECT PRODUCT CITATIONS

1. Baye, L.M., et al. 2011. The N-terminal region of centrosomal protein 290 (CEP290) restores vision in a zebrafish model of human blindness. Hum. Mol. Genet. 20: 1467-1477.
2. Boudreau, É., et al. 2012. Lamin A/C mutants disturb sumo1 localization and sumoylation *in vitro* and *in vivo*. PLoS ONE 7: e45918.
3. Willmann, K.L., et al. 2014. Biallelic loss-of-function mutation in NIK causes a primary immunodeficiency with multifaceted aberrant lymphoid immunity. Nat. Commun. 5: 5360.
4. Chhunchha, B., et al. 2014. Aberrant sumoylation signaling evoked by reactive oxygen species impairs protective function of Prdx6 by destabilization and repression of its transcription. FEBS J. 281: 3357-3381.
5. Wang, Y.F., et al. 2017. G9a regulates breast cancer growth by modulating iron homeostasis through the repression of ferroxidase hephaestin. Nat. Commun. 8: 274.

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.