SANTA CRUZ BIOTECHNOLOGY, INC.

GFP (15): sc-101525

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

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, makes GFP a useful tool for monitoring gene expression and protein localization *in vivo*. Several GFP mutants have been developed, including EGFP, which fluoresces more intensely than the wildtype GFP. Their shifted excitation maxima is more favorable 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., et al. 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.

SOURCE

GFP (15) is a mouse monoclonal antibody raised against recombinant GFP.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GFP (15) is recommended for detection of GFP by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of GFP: 27 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

STORAGE

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

SELECT PRODUCT CITATIONS

1. Deng, L., et al. 2009. Hepatitis B virus inhibition in mice by lentiviral vector mediated short hairpin RNA. BMC Gastroenterol. 9: 73.
2. Lee, P.T., et al. 2010. Mouse kidney progenitor cells accelerate renal regeneration and prolong survival after ischemic injury. Stem Cells 28: 573-584.
3. Hench, J., et al. 2011. A tissue-specific approach to the analysis of metabolic changes in *Caenorhabditis elegans*. PLoS ONE 6: e28417.
4. Yavagal, D.R., et al. 2014. Efficacy and dose-dependent safety of intra-arterial delivery of mesenchymal stem cells in a rodent stroke model. PLoS ONE 9: e93735.
5. Oshiro, H., et al. 2015. Establishment of successively transplantable rabbit VX2 cancer cells that express enhanced green fluorescent protein. Med. Mol. Morphol. 48: 13-23.
6. Matzke-Ogi, A., et al. 2016. Inhibition of tumor growth and metastasis in pancreatic cancer models by interference with CD44v6 signaling. Gastroenterology 150: 513-525.
7. Mukherjee, D., et al. 2016. Krüppel-like factor 8 activates the transcription of C-X-C cytokine receptor type 4 to promote breast cancer cell invasion, transendothelial migration and metastasis. Oncotarget 7: 23552-23568.
8. Steens, J., et al. 2017. *In vitro* generation of vascular wall-resident multipotent stem cells of mesenchymal nature from murine induced pluripotent stem cells. Stem Cell Rep. 8: 919-932.
9. Chang, P., et al. 2017. Molecular identification of transmembrane protein 68 as an endoplasmic reticulum-anchored and brain-specific protein. PLoS ONE 12: e0176980.
10. Goel, R.K., et al. 2018. Phosphoproteomics analysis identifies novel candidate substrates of the non-receptor tyrosine kinase, SRMS. Mol. Cell. Proteomics 17: 925-947.
11. Goel, R.K., et al. 2018. Global phosphoproteomic analysis identifies SRMS-regulated secondary signaling intermediates. Proteome Sci. 16: 16.
12. Zhang, Y., et al. 2018. nNOS-CAPON interaction mediates Amyloid-β-induced neurotoxicity, especially in the early stages. Aging Cell 17: e12754.
13. Ding, X.F., et al. 2018. Never-in-mitosis A-related kinase 8, a novel target of von-Hippel-Lindau tumor suppressor protein, promotes gastric cancer cell proliferation. Oncol. Lett. 16: 5900-5906.
14. Zeng, J., et al. 2019. TRIM9-mediated resolution of neuroinflammation confers neuroprotection upon ischemic stroke in mice. Cell Rep. 27: 549-560.e6.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.