SANTA CRUZ BIOTECHNOLOGY, INC.

GFP (B-2): sc-9996

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.

SOURCE

GFP (B-2) is a mouse monoclonal antibody raised against amino acis 1-238 representing full length GFP (green fluorsecent protein) of *Aequorea victoria* origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GFP (B-2) is available conjugated to agarose (sc-9996 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9996 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9996 PE), fluorescein (sc-9996 FITC), Alexa Fluor® 488 (sc-9996 AF488), Alexa Fluor® 546 (sc-9996 AF546), Alexa Fluor® 594 (sc-9996 AF594) or Alexa Fluor® 647 (sc-9996 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-9996 AF680) or Alexa Fluor® 790 (sc-9996 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, GFP (B-2) is available conjugated to biotin (sc-9996 B), 200 µg/ml, for WB, IHC(P) and ELISA; and to either TRITC (sc-9996 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-9996 AF405, 200 µg/ml), 100 tests in 2 ml, for IF, IHC(P) and FCM.

APPLICATIONS

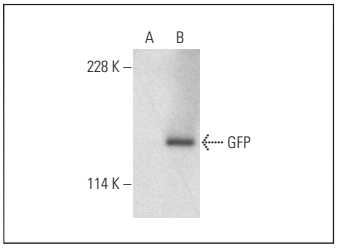
GFP (B-2) is recommended for detection of GFP and GFP mutant fusion proteins by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of GFP: 27 kDa.

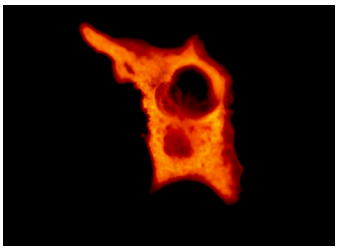
STORAGE

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

DATA



GFP (B-2) HRP: sc-9996 HRP. Direct western blot analysis of GFP expression in COS (**A**) and GFP transfected COS (**B**) whole cell lysates.



GFP (B-2): sc-9996. Immunofluorescence staining of methanol-fixed COS cells transfected with GFP fusion protein showing cytoplasmic staining.

SELECT PRODUCT CITATIONS

1. Koprunner, M., et al. 2001. A zebrafish nanos-related gene is essential for the development of primordial germ cells. Genes Dev. 15: 2877-2885.
2. Khalique, A., et al. 2016. Prolonged exposure to insulin with insufficient glucose leads to impaired Glut4 translocation. Biochem. Biophys. Res. Commun. 474: 64-70.
3. Guo, X., et al. 2017. VCP cooperates with UBXD1 to degrade mitochondrial outer membrane protein MCL1 in model of Huntington's disease. Biochim. Biophys. Acta 1863: 552-559.
4. Mahpour, A., et al. 2018. A methyl-sensitive element induces bidirectional transcription in TATA-less CpG island-associated promoters. PLoS ONE 13: e0205608.
5. Sharma, M. and Subramaniam, S. 2019. Rhes travels from cell to cell and transports Huntington disease protein via TNT-like protrusion. J. Cell Biol. 218: 1972-1993.
6. Kwon, Y., et al. 2020. βPix-d promotes tubulin acetylation and neurite outgrowth through a PAK/Stathmin1 signaling pathway. PLoS ONE 15: e0230814.
7. Li, Y., et al. 2021. The Sm core components of small nuclear ribonucleoproteins promote homologous recombination repair. DNA Repair 108: 103244.
8. Jang, H.J. and Chung, K.C. 2022. The ubiquitin-proteasome system and autophagy mutually interact in neurotoxin-induced dopaminergic cell death models of Parkinson's disease. FEBS Lett. 596: 2898-2913.
9. Kim, S.H., et al. 2023. Endolysosomal impairment by binding of Amyloid β or MAPT/Tau to V-ATPase and rescue via the HYAL-CD44 axis in Alzheimer disease. Autophagy 19: 2318-2337.

RESEARCH USE

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