SANTA CRUZ BIOTECHNOLOGY, INC.

GFP (B-2): sc-9996

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., 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), PerCP (sc-9996 PerCP), PerCP-Cy5.5 (sc-9996 PCPC5) or Alexa Fluor® 405 (sc-9996 AF405), 100 tests in 2 ml, for IF, IHC(P) and FCM.

APPLICATIONS

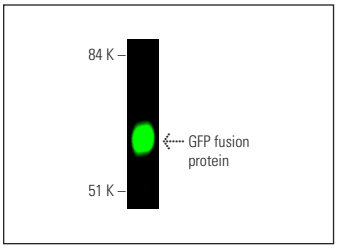
GFP (B-2) is recommended for detection of GFP and GFP mutant fusion proteins by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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.

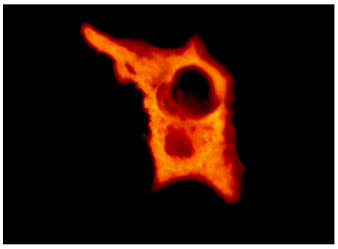
STORAGE

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) AF680: sc-9996 AF680. Direct near-infrared western blot analysis of GFP expression in human recombinant GFP fusion protein. Blocked with UltraCruz® Blocking Reagent: sc-516214.



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

SELECT PRODUCT CITATIONS

1. Hiscox, S., et al. 2002. GPI-anchored GFP signals Ca^{2+} but is homogeneously distributed on the cell surface. Biochem. Biophys. Res. Commun. 293: 714-721.
2. 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.
3. Chen, Y.D., et al. 2017. S100A10 regulates ULK1 localization to ER-mitochondria contact sites in IFN-γ-triggered autophagy. J. Mol. Biol. 429: 142-157.
4. Lee, S.A., et al. 2017. Functional expression of dopamine D2 receptor is regulated by tetraspanin 7-mediated postendocytic trafficking. FASEB J. 31: 2301-2313.
5. Kang, J.W.M., et al. 2017. Resolving the contributions of anaesthesia, surgery, and nerve injury on brain derived neurotrophic factor expression in the medial prefrontal cortex of male rats in the CCI model of neuropathic pain. J. Neurosci. Res. 95: 2376-2390.
6. Wang, W.F., et al. 2017. HSP70-Hrd1 axis precludes the oncorepressor potential of N-terminal misfolded Blimp-1s in lymphoma cells. Nat Commun. 8: 363.
7. Marjanovic, M.P., et al. 2017. MacroH2A1.1 regulates mitochondrial respiration by limiting nuclear NAD^+ consumption. Nat. Struct. Mol. Biol. 24: 902-910.
8. Shu, Y.N., et al. 2017. CKII-SIRT1-SM22α loop evokes a self-limited inflammatory response in vascular smooth muscle cells. Cardiovasc. Res. 113: 1198-1207.

RESEARCH USE

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