SANTA CRUZ BIOTECHNOLOGY, INC.

copGFP (V-18): sc-139734

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. The copGFP marker is a natural green monomeric GFP-like protein from copepod (pontellina sp.). The copGFP protein has very bright fluorescence that exceeds at least 1.3 times the brightness of EGFP. 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. 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.
3. Chalfie, M., et al. 1994. Green fluorescent protein as a marker for gene expression. Science 263: 802-805.
4. Shagin, D.A., et al. 2004. GFP-like proteins as ubiquitous metazoan superfamily: evolution of functional features and structural complexity. Mol. Biol. Evol. 21: 841-850.
5. Nowak, K., et al. 2004. Fluorescent proteins in poplar: a useful tool to study promoter function and protein localization. Plant Biol. 6: 65-73.
6. Enoki, S., et al. 2004. Acid denaturation and refolding of green fluorescent protein. Biochemistry 43: 14238-14248.
7. Wilmann, P.G., et al. 2006. The 2.1A crystal structure of copGFP, a representative member of the copepod clade within the green fluorescent protein superfamily. J. Mol. Biol. 359: 890-900.
8. Evdokimov, A.G., et al. 2006. Structural basis for the fast maturation of arthropoda green fluorescent protein. EMBO Rep. 7: 1006-1012.

SOURCE

copGFP (V-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of copGFP of *Pontellina plumata* origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-139734 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

copGFP (V-18) is recommended for detection of copGFP of *Pontellina plumata* origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of copGFP: 25 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.