SANTA CRUZ BIOTECHNOLOGY, INC.

DsRed2 (29): sc-101529

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Plasmid vectors for the expression of coding regions of eukaryotic genes in bacterial, insect and mammalian hosts are of common usage; such expression vectors are frequently used to encode hybrid fusion proteins consisting of a eukaryotic target protein and a specialized region designed for fluorescent visualization. Common fluorescent tags include green fluorescent protein (GFP) and red fluorescent protein 2 (DsRed2), a variant of DsRed. DsRed2 exhibits high signal to noise ratio and distinct spectral properties, making it a useful fusion tag for various proteins.

REFERENCES

1. Wall, M., et al. 2000. The structural basis for red fluorescence in the tetrameric GFP homolog DsRed. Nat. Struct. Biol. 7: 1133-1138.
2. Baird, G.S., et al. 2000. Biochemistry, mutagenesis, and oligomerization of DsRed, a red fluorescent protein from coral. Proc. Natl. Acad. Sci. USA 97: 11984-11989.
3. Rodrigues, F., et al. 2001. Red fluorescent protein (DsRed) as a reporter in *Saccharomyces cerevisiae*. J. Bacteriol. 183: 3791-3794.
4. Zapata-Hommer, O., et al. 2003. Efficiently folding and circularly permuted variants of the sapphire mutant of GFP. BMC Biotechnol. 3: 5.
5. Nahalkova, J., et al. 2003. Red fluorescent protein (DsRed2) as a novel reporter in *Fusarium oxysporum f.sp.* lycopersici. FEMS Microbiol. Lett. 225: 305-309.
6. Maruyama, M., et al. 2004. Simultaneous detection of DsRed2-tagged and EGFP-tagged human β-interferons in the same single cells. J. Cell. Biochem. 93: 497-502.
7. Tubbs, J.L., et al. 2005. Crystallographic structures of *Discosoma* red fluorescent protein with immature and mature chromophores: linking peptide bond *trans-cis* isomerization and acylimine formation in chromophore maturation. Biochemistry 44: 9833-9840.
8. Akimoto, A., et al. 2005. Enhancer trapping with a red fluorescent protein reporter in *Drosophila*. Dev. Dyn. 233: 993-997.
9. Nishizawa, K., et al. 2006. A red fluorescent protein, DsRed2, as a visual reporter for transient expression and stable transformation in soybean. Plant Cell Rep. 25: 1355-1361.

SOURCE

DsRed2 (29) is a mouse monoclonal antibody raised against a recombinant fragment corresponding to amino acids 21-245 of DsRed2 protein.

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.

STORAGE

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

APPLICATIONS

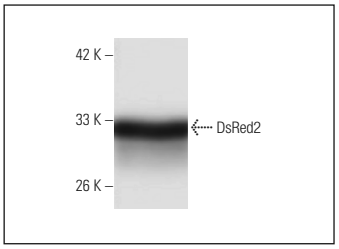
DsRed2 (29) is recommended for detection of DsRed2 by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of DsRed2: 25 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



DsRed2 (29): sc-101529. Western blot analysis of recombinant RFP protein.

SELECT PRODUCT CITATIONS

1. Zhang, X., et al. 2019. CRISPR/Cas9 initiated transgenic silkworms as a natural spinner of spider silk. Biomacromolecules 20: 2252-2264.

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.

CONJUGATES

See **DsRed2 (25): sc-101526** for DsRed2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.