

# DsRed (F9): sc-81595

## BACKGROUND

Plasmid vectors for the expression of coding regions of eukaryotic genes in bacterial, insect and mammalian hosts are in 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 of the fusion protein. DsRed is a red fluorescent protein cloned by homology to green fluorescent protein (GFP) from *Discosoma* coral. DsRed exhibits excellent resistance to pH extremes and photobleaching and causes a strong red shift from 558 nm to 583 nm once matured. Immature DsRed shows GFP-like excitation and emission maxima. The contrast created through GFP and DsRed spectral shifts allows for a powerful dual reporter system.

## 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* 22: 11984-11989.
3. Rodrigues, F., et al. 2001. Red fluorescent protein (DsRed) as a reporter in *Saccharomyces cerevisiae*. *J. Bacteriol.* 12: 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. 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* 29: 9833-9840.
6. Akimoto, A., et al. 2005. Enhancer trapping with a red fluorescent protein reporter in *Drosophila*. *Dev. Dyn.* 233: 993-997.

## SOURCE

DsRed (F9) is a mouse monoclonal antibody raised against recombinant DsRed protein.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

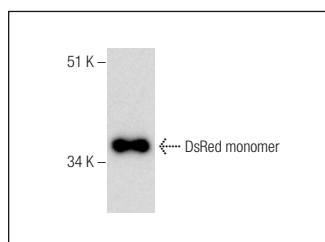
DsRed (F9) is recommended for detection of proteins containing the DsRed tag by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Molecular Weight of DsRed: 28 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



DsRed (F9): sc-81595. Western blot analysis of purified recombinant DsRed monomer.

## SELECT PRODUCT CITATIONS

1. Morosky, S.A., et al. 2011. Retinoic acid-induced gene-I (RIG-I) associates with nucleotide-binding oligomerization domain-2 (NOD2) to negatively regulate inflammatory signaling. *J. Biol. Chem.* 286: 28574-28583.
2. Dibas, A., et al. 2012. Fluorescent protein-labeled glucocorticoid receptor  $\alpha$  isoform trafficking in cultured human trabecular meshwork cells. *Invest. Ophthalmol. Vis. Sci.* 53: 2938-2950.