Recombinant RFP

CATALOG NUMBER: STA-202 (1 vial)
STA-202-5 (5 vials)

STORAGE: -80ºC; avoid freeze/thaw

QUANTITY AND CONCENTRATION: 100 µg/vial at 1.0 mg/mL in 1X PBS

SHELF LIFE: 1 year from date of receipt under proper storage conditions

Background

Red fluorescent protein (DsRed) is a spontaneously fluorescent protein isolated from the Indo-Pacific sea coral, *Discosoma striata*. It absorbs and emits orange-red light and is well suited for multi-color tagging used in FRET. Since the molecular cloning of RFP cDNA and demonstration of RFP as a functional transgene, RFP has become a powerful tool with exciting applications in developmental, cell and molecular biology. RFP fluorescence is not species specific and can be expressed in bacteria, yeast, plant and mammalian cells. RFP can fuse with proteins of interest without interfering significantly with their assembly and function. Based on the structure of the RFP molecule, many RFP variants, such as TagRFP, TurboRFP, DsRed, tdTomato, mCherry, mKate, mRuby, mBanana, mOrange, mPlum, and mStrawberry, have been created with much improved fluorescence emission, or shifted excitation or emission spectra that are well suited for fluorescence microscopy and flow cytometry. Since rRFP requires no additional substrates or cofactors, rRFP fluorescence can be easily detected under fluorescence microscope after expression in either prokaryotic or eukaryotic cells.

Purity and Activity

Expressed and purified from E.Coli as a fusion protein, greater than 95% by SDS-PAGE (Figure 1). Cell Biolabs' mCherry has an approximate MW of 29 kDa, containing a 6xHis-tag at the C-terminus, and an excitation/emission spectra of 587/610 nm. Fluorescence measurement was performed on SpectraMax Gemini XS Fluorometer (Molecular Devices) (Figure 2).

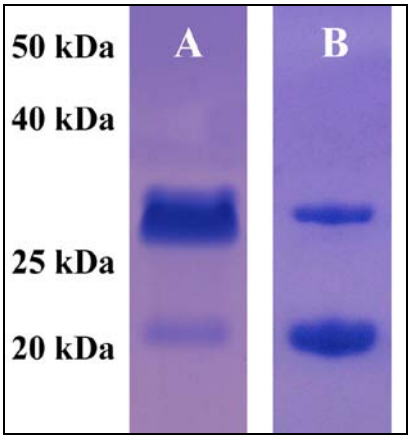
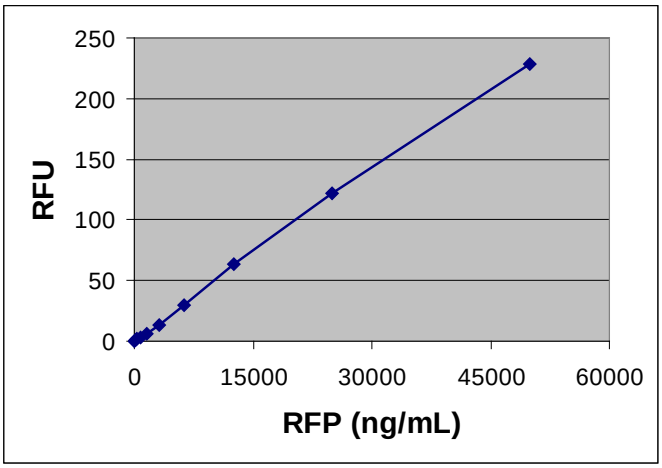


Figure 1. Recombinant mCherry on SDS-PAGE. Lane A (unheated and without DTT) and Lane B (boiled containing DTT). *Note: SDS denaturation and boiling is known to produce a 22kDa cleavage product (due to hydrolysis of the main chain acylimine linkage).*



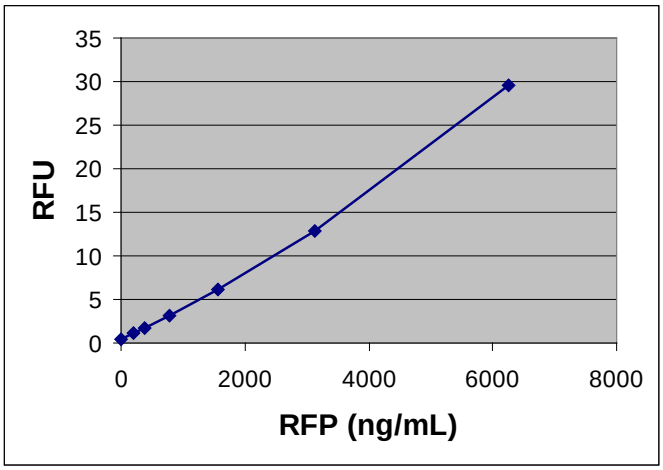


Figure 2. mCherry Fluorometric Activity. Fluorescence measurement was performed on SpectraMax Gemini XS Fluorometer (Molecular Devices) with a 584/612 nm filter set. One should use the data below for reference only. This data should not be used to interpret actual results.

References

1. Shaner, N.C. et al, *J. Cell Sci.* **120**: 4247-4260, 2007.
2. Matz, M.V. et al, *Nat. Biotechnol.* **17**: 969-973, 1999.
3. Campbell, R.E. et al, *Proc. Natl. Acad. Sci. USA* **99**: 7877-7882, 2002.
4. Shaner, N.C. et al, *Nat. Biotechnol*. **22**: 1567-1572, 2004.

Warranty

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Contact Information

Cell Biolabs, Inc.
7758 Arjons Drive
San Diego, CA 92126
Worldwide: +1 858-271-6500
USA Toll-Free: 1-888-CBL-0505
E-mail: tech@cellbiolabs.com
www.cellbiolabs.com