Recombinant EGFP

CATALOG NUMBER: STA-201 (1 vial)
STA-201-5 (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

Green Fluorescent Protein (GFP) is a spontaneously fluorescent protein originally isolated from the jellyfish *Aequorea victoria*. Molecular cloning of the GFP gene and its subsequent expression in heterologous systems have established recombinant GFP (rGFP) as a valuable reporter molecule for *in vivo* visualization of gene expression events in a wide variety of cell types and organisms. GFP can fuse with proteins of interest without interfering significantly with their assembly and function. Based on the structure of the GFP molecule, many GFP variants 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 rGFP requires no additional substrates or cofactors, rGFP 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 recombinant protein, greater than 90% by SDS-PAGE (Figure 1). Cell Biolabs' rEGFP has an approximate MW of 29 kDa, containing a 6xHis-tag at the C-terminus, and an excitation/emission spectra of 488/507 nm. Fluorescence activity was determined by Cell Biolabs' GFP Fluorometric Quantitation Kit (AKR-120) (Figure 2).

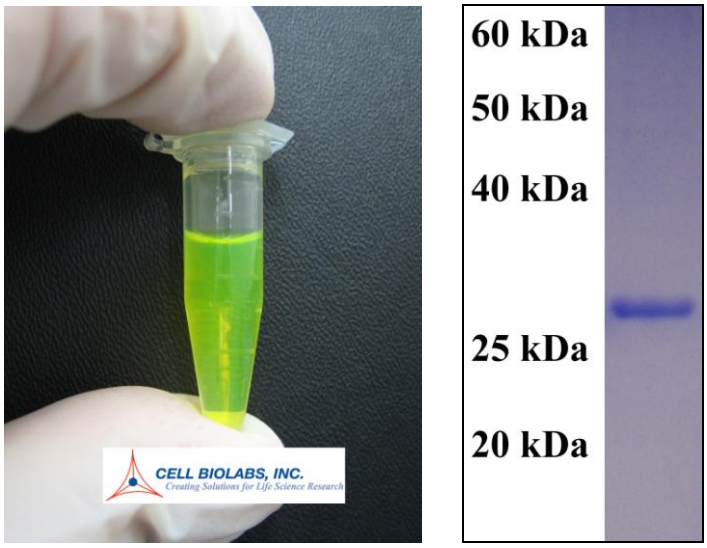

Figure 1. Recombinant EGFP on SDS-PAGE

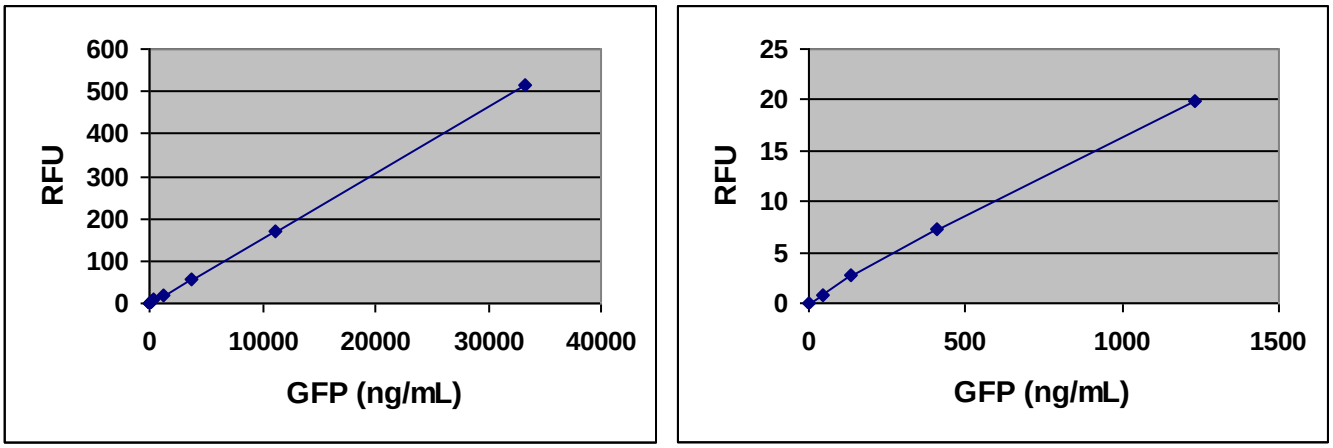

Figure 2. rEGFP Fluorometric Activity. The following figures demonstrate typical fluorescence of Cell Biolabs' rEGFP as tested in the GFP Fluorometric Quantitation Kit (AKR-120). Fluorescence measurement was performed on SpectraMax Gemini XS Fluorometer (Molecular Devices) with a 485/538 nm filter set and 530 nm cutoff. One should use the data below for reference only. This data should not be used to interpret actual results.

References

1. Chalfie M. et al, *Science* **263**: 802-805, 1994.
2. Cormack B.P. et al, *Gene* **173**: 33-38, 1996.
3. Rizzuto R. et al, *Curr.Biol.* **6**:183-188 1996.

Recent Product Citations

1. Kirschbaum, M. et al. (2015). Horizontal RNA transfer mediates platelet-induced hepatocyte proliferation. *Blood.* **126**:798-806.
2. Caschera, F. & Noireaux, V. (2015). Preparation of amino acid mixtures for cell-free expression systems. *Biotechniques*. **58**:40-43.
3. Caschera, F. & Noireaux, V. (2015). A cost-effective polyphosphate-based metabolism fuels an all E. coli cell-free expression system. *Metab Eng.* **27**:29-37.
4. Aranda, A. et al. (2014). A quick and efficient method to generate mammalian stable cell lines based on a novel inducible alphavirus DNA/RNA layered system. *Cell Mol Life Sci.* **71**:4637-4651.
5. Caschera, F. & Noireaux, V. (2014). Synthesis of 2.3 mg/ml of protein with an all Escherichia coli cell-free transcription-translation system. *Biochimie*. **99**:162-168.
6. Sokolova, E. et al. (2013). Enhanced transcription rates in membrane-free protocells formed by coacervation of cell lysate. *PNAS*. **110**: 11692-11697.

Warranty

This product is for RESEARCH USE ONLY; not for use in diagnostic procedures.

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