Product Data Sheet

Renilla reniformis Green Fluorescent Protein

Catalog Number: 0310

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Product Description

Renilla reniformis (sea pansy) is a species of soft coral that is characterized by a green fluorescence. The green fluorescent protein obtained from this organism exhibits nearly symmetrical excitation and emission peaks with a relatively small Stokes shift.1 This is in contrast to the more commonly employed GFP from Aequorea victoria which has two wavelengths at which excitation occurs, and a broader emission spectra. The monomer extinction coefficient for Rr-GFP is about 5.5-fold higher than the Aequorea GFP which, in conjunction with a slightly higher quantum yield, produces a brighter fluorescence. Recombinant Renilla reniformis GFP has the same level of fluorescence as the native protein.[2]

Product Specifications

Protein	1mg (0310-1), 250µg (0310-2)
Long-term Storage	2 years at -80°C Aliquot to avoid repeated freezing and thawing
Short-tem Storage	1 month at 4°C
Formulation	In: 10mM Na_2HPO_4, 140mM NaCl, 2 mM KH_2PO_4, 3mM KCl, 20% glycerol, pH 7.6
Molecular Weight	26kDa by SDS-PAGE 22kDa

Technical Information

Length	233 aa
Molecular Weight	25,990
Molar Extinction Coefficient	15,840
Isoelectric Point	6.19
Excitation	485nm
Emission	535nm

Instructions for Use

1. The measurement of fluorescence is instrument-dependent. Please follow the instructions for fluorescence measurements as described by the instrument manufacturer.

   To determine the dose-response for a given application, prepare a dilution series of the GFP in phosphate buffered saline pH 7.3. An example is shown on the right.

Material Safety Data

FOR RESEARCH USE ONLY. NOT INTENDED OR APPROVED FOR HUMAN, DIAGNOSTICS OR VETERINARY USE. Do not ingest, swallow or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. For complete safety information see full Material Safety Data Sheet.

Spectral Properties of *Renilla reniformis* Green Fluorescent Protein

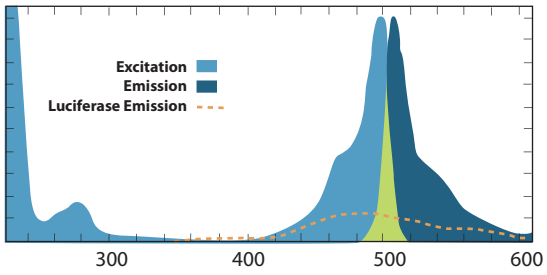

Figure 1. The graph on the top shows the emission spectrum for *Renilla reniformis* green fluorescent protein. Excitation and emission peaks are almost symmetrical with a relatively small Stokes shift.[1]

Fluorescence of *Renilla reniformis* GFP

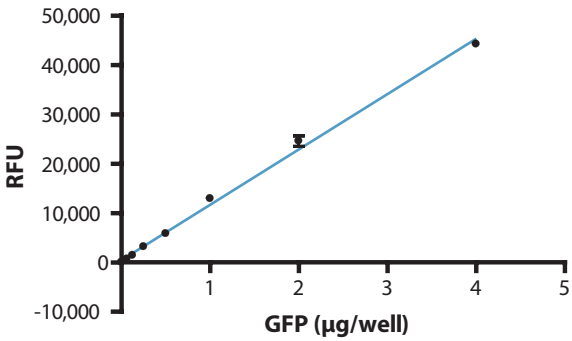

Figure 2. Renilla reniformis GFP fluorescense as measured in a 96-well microtiter dish. A serial dilution of the GFP was prepared in 25mM Tris-Cl, 150mM NaCl pH 8.0 and 0.1mL was applied to a duplicate well. Fluorescence was measured using 485nm excitation and 535nm emission.

References

1. Labas, Y. A., Gurskaya, N. G., Yanushevich, Y. G., Fradkov, A. F., Lukyanov, K. A., Lukyanov, S. A., and Matz, M. V. 2002. Diversity and evolution of the green fluorescent protein family. Proc. Natl. Acad. Sci. USA. 99:4256-4261.

2. Bryan, B. J., Szent-Gyorgyi, C. 2001. Luciferases, fluorescent proteins, nucleic acids encoding the luciferases and fluorescent proteins and the use thereof in diagnostics, high throughput screening and novelty items. U.S. Patent No. 6,232,107.