

Recombinant Enhanced Green Fluorescence Protein

Information

Gene ID	7011691
Accession #	P42212
Alternate Names	eGFP
Source	Escherichia coli.
M.Wt	Approximately 26.9 kDa, a single non-glycosylated polypeptide chain containing 239 amino acids.
AA Sequence	MVSKGEELFT GVVPILVELD GDVNGHKFSV SGEGEGDATY GKLTCLKFICT TGKLPVPWPT LVTTLTYGVQ CFSRYPDHMK QHDFFKSAMP EGYVQERTIF FKDDGNYKTR AEVKFEGDTL VNRIELKGID FKEDGNILGH KLEYNYNNSHN VYIMADKQKN GIKVNFKIRH NIEDGSVQLA DHYQQNTPIG DGPVLLPDNH YLSTQSALSK DPNEKRDHNV LLEFVTAAGI TLGMDELYK
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - 12 months from date of receipt, -20 to -70 °C as supplied - 1 month, 2 to 8 °C under sterile conditions after reconstitution - 3 months, -20 to -70 °C under sterile conditions after reconstitution
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Components and Storage

Components	10µg	500µg
Recombinant Enhanced Green Fluorescence Protein	10µg	500µg

Use a manual defrost freezer and avoid repeated freeze-thaw cycles

- 12 months from date of receipt, -20 to -70 °C as supplied
- 1 month, 2 to 8 °C under sterile conditions after reconstitution
- 3 months, -20 to -70 °C under sterile conditions after reconstitution

Quality Control

Purity	> 95 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of reGFP as determined by LAL method.

Description

Green fluorescent protein (GFP) here refers to the protein first purified from jellyfish *Aequorea victoria*, though many other organisms have similar proteins. It is a 26.9 kDa protein (composed of 238 a.a. residues) that shows green fluorescence in short-wave light (blue to ultraviolet). Despite of wild-type GFP, many mutants of GFP have been engineered for wider usage in research. Enhanced GFP (eGFP) has S65T and F64L mutations, which make GFP show increased fluorescence and fold more efficiently under 37 °C, respectively. eGFP allows the use of GFP in mammalian cells. In *A. Victoria*, GFP plays roles as an energy transfer acceptor. It has long been used in cell and molecular biology as a reporter of gene expression. GFP can also be applied as a molecular thermometer to measure temperature accurately in fluids.

Reference

1. Prendergast FG, Mann KG. 1978. *Biochemistry*. 17:3448-53
2. Shaner NC, Steinbach PA, Tsien RY. 2005. *Nat Methods*. 2:905-9
3. Phillips GJ. 2001. *FEMS Microbiol Lett*. 204:9-18
4. Wong FH, Banks DS, Abu-Arish A, et al. 2007. *J Am Chem Soc*. 129:10302-3.

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