

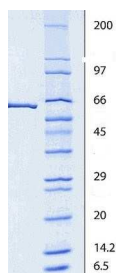
Product Specification Sheet

Recombinant Luciferase Protein

□ **Cat.** LUCF15-R Recombinant (E. coli) purified Firefly Luciferase protein, active **SIZE:** 250 ug

Expression of genes in E. coli or yeast or baculovirus offers a convenient system to produce large amounts of recombinant proteins that may otherwise be difficult to isolate from natural cells and tissues. Very often antibodies to these newly identified proteins are not available to study its biochemical properties, monitor protein expression, and purification. In order to circumvent this problem, short pieces of well-defined peptides (Poly-His, Flag-epitope or c-myc epitope or HA-tag) or small proteins (bacterial GST, MBP, Thioredoxin, b-Galactosidase, VSV-Glycoprotein etc) are often cloned along with the target gene. Proteins are expressed as fusion proteins. Antibodies to these fusion-tags are already available to monitor fusion protein expression and purification. Therefore, fusion-tags serve as universal tags much like secondary antibodies. Many tags have their own characteristics. Poly-His-fusion proteins (6 x His) can bind to Nickel-Sepharose or Nickel-HRP. GST-fusion proteins can bind to glutathione-Sepharose. Therefore, a high degree of purification of fusion protein can be achieved in just one affinity purification step. Purity of fusion proteins can be followed by Tag-antibodies. Very often, fusion proteins are directly injected into animals to generate antibodies. Some fusion tags can be removed later by treatment with enzymes to generate tag-free recombinant proteins.

Source of Antigen



Luciferase from *Photinus pyralis* (American firefly) produced from the luc gene expressed in E. coli and purified (>98%, ~100 kda, a dimer of two subunits of ~50 kda). Purified Luciferase Protein is supplied as a solution in 50 mM Tris-HCl pH 8.0, 1 mM dithiothreitol, 1 mM EDTA, and 10% (v/v) glycerol.

Specific Activity: minimum 15-30 x 10⁶ light units/mg protein

Unit Definition: Expressed in million light units/mg protein. One light unit produces a biometer peak height equivalent to 0.02 microcuries of 14C in PPO/POPOP cocktail. Light units are measured in 50 microliters of assay mixture containing 5 picomoles of ATP and 7.5 nanomoles luciferin in glycine-Tris buffer, pH 7.6 at 25 deg C. Light units are measured in a 50 µl assay mixture containing 5 pmole of ATP and 7.5 nmole of luciferin in Tris-glycine buffer at pH 7.6 at 25 °C.

Enzymatic impurities:

ATPase <5 nm/mg
Nucleoside Diphosphokinase <20 nm/mg

Sensitivity Test

< or = 1 femtomole of ATP can be determined using 0.2 micrograms of luciferase and suitably sensitive liquid scintillation counters or luminometers.

This product ships on dry ice and storage at -70 °C is recommended. The product, as supplied, is stable for at least 2 years. Shipment or storage at 4oC may lose biological activity but it may still be used for ELISA or Western. Do not freeze, thaw, or heat repeatedly

References: DeWet, J.R., Mol. Cell. Biol., 7, 725-737 (1987); Stanley, P.E. Biolumin. Chemilumin., 4, 375-380 (1989); Kricka, L.J., Analyt. Biochem., 175, 14-21 (1988); Chappelle, E.W., Meth. Enzymol., 57, 65-72 (1978).

This product is for in vitro research use only.

Related material available from ADI

| Catalog# | ProdDescription |
|----------------|--|
| LUCF11-A | Anti-Luciferase (Fire fly) IgG |
| LUCF11-BTN | Anti-Luciferase (Fire fly) IgG-Biotin Conjugate |
| LUCF11-C | Recombinant purified Firefly Luciferase protein |
| WB +ve control | |
| LUCF11-HRP | Anti-Luciferase (Fire fly) IgG-HRP Conjugate |
| LUCF12-A | Anti-Luciferase (<i>Photobacterium fischerii</i>) IgG |
| LUCF12-BTN | Anti-Luciferase (<i>Photobacterium fischerii</i>) IgG-Biotin Conjugate |
| LUCF12-C | <i>Photobacterium fischerii</i> Luciferase protein (partially pure) WB +ve control |
| LUCF12-FITC | Anti-Luciferase (<i>Photobacterium fischerii</i>) IgG-FITC Conjugate |
| LUCF12-HRP | Anti-Luciferase (<i>Photobacterium fischerii</i>) IgG-HRP Conjugate |
| LUCF15-R | Recombinant (E. coli) purified Firefly Luciferase protein, active |
| LUCF16-N-10 | <i>Photobacterium fischerii</i> Luciferase protein (partially pure), active |

LUCF15-R-Recombinant-Luciferase-Protein 150831A

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