

Product Specification Sheet

Recombinant Enhanced Green Fluorescent Protein (EGFP)

Cat. EGFP16-R	Recombinant purified EGFP protein for ELISA	SIZE: 10 ug
Cat. EGFP16-R-100	Recombinant purified EGFP protein for ELISA	SIZE: 100 ug

Recombinant DNA technology allows the addition of short pieces of well-defined tags, "peptides" or proteins at the amino or c-terminus of target genes, which can provide 'affinity handles' designed to bind specific matrices. Therefore, tags enables a selective identification and purification of the protein of interest. The addition of a green fluorescent protein (GFP) tag to a given gene, creates a stable fusion product that does not appear to interfere with the bioactivity of the protein, or with the biodistribution of the GFP tagged product. GFP is a 27 kD (238 a.a.) protein, derived from the bioluminescent jellyfish *Aequorea victoria*, in which light is produced when energy is transferred from the Ca²⁺-activated photoprotein aequorin to GFP. GFP is acknowledged as a unique tool to monitor dynamic processes in a variety of living cells or organisms. When expressed in either eukaryotic or prokaryotic cells and illuminated by blue or UV light, GFP yields a bright green fluorescence. Light-stimulated GFP fluorescence is species-independent and a fluorescence has been reported from many different types of GFP-expressing hosts, including microbes, invertebrates, vertebrates and plants. Exogenous substrates and cofactors are not required for the fluorescence of GFP, since GFP autocatalytically forms a fluorescent pigment from natural amino acids present in the nascent protein. Additionally, detection of GFP and its variants can be performed with living tissues instead of fixed samples. GFP signals can be quantified by flow cytometry, confocal scanning laser microscopy, and fluorometric assays. Indeed, many recombinant proteins have been engineered with GFP tags to facilitate the detection, isolation and purification of the proteins. The potential applications have been multiplied by the introduction of brighter GFP mutants and mutants with modified spectral properties, like the blue fluorescent protein (BFP), which allow the independent detection of BFP- and GFP- tagged proteins, even when coexpressed in the same cell. Monoclonal antibody reacting specifically with GFP may be useful in various immunotechniques, to identify the expression of a GFP fusion protein *in situ* and by immunoblotting, in bacteria, bacterial lysates or cells and tissues transfected with a GFP fusion protein expressing vectors. It may also be used to correlate levels of GFP protein expression with fluorescence intensity and for immunoprecipitation of GFP fusion proteins.

Source of Antigen and Antibodies

Full length EGFP protein (265 aa, ~29 kda; gene accession # U57607) was expressed in *E. coli* and purified (>95%). Purified protein retains maximal GFP fluorescence. The excitation and emission spectra for recombinant EGFP is identical to GFP purified from *Aequorea Victoria* with Ex/Em = 488/507 nm.

Cat # EGFP16-R for ELISA is formulated in 10 mM Tris, pH 8.0, 10 mM EDTA. It is supplied in 10 ug/100 ul in the buffer or in powder form. **Cat # EGFP16-R-100** (100 ug) size is supplied at 100 ug/100 ul in liquid or powder form. Dissolved powder in a suitable buffer at a stock concentration of 100 ug/ml. Store frozen in suitable aliquots at -20°C or below.

This preparation is suitable for ELISA coating or for standards or FACS control.

Storage

Short-term: unopened, undiluted vials for less than a week at 4°C.

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder.

General. References: Narayanan, S.R., *J. Chromatogr.*, 658, 237 (1994); Olins, P.O., and Lee, S.C., *Curr. Opin. Biotechnol.*, 4, 520 (1993); Uhlen, M., and Moks, T., *Meth. Enzymol.*, 185, 129, (1990). Tsien, R.Y., *Ann. Rev. Biochem.*, 67, 509 (1998); Chalifie, M., et al., *Science*, 263, 802 (1994); Cubitt, A.B., et al., *Trends Biochem.*, 20, 448, (1995); Prasher, D.C., *Trends Genet.*, 11, 320 (1995); Stearns, T., *Curr. Biol.*, 5, 262 (1995); Errampalli, D., et al., *J. Microbiol. Methods*, 35, 187 (1999); Sawin, K.E., *Methods Cell Biol.*, 58, 123 (1999); Cormack, B., *Curr. Opin. Microbiol.*, 1, 406 (1998); Brand, A., *Methods Cell Biol.*, 58, 165 (1999)

*This product is for In vitro research use only.

Anti-MBP, Poly-His, GST, beta-Gal, VSV-G, Flag, HA-tag, and c-myc

Western Blot Recycling Kit (Strips blots in 5 minutes) and re-use the same blot with multiple antibodies

EGFP16-R-100

71215A