



Product Specification Sheet

Anti-Green Fluorescent Protein (GFP) Antibody Conjugates

Cat # GFP11-A	Goat Anti-GFP IgG unlabeled	SIZE: 100 ug
Cat # GFP11-C	Recombinant purified GFP protein for WB control	SIZE: 100 ul

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-proteins.

Source of Antigen and Antibodies

Cat# GFP11-A, Unlabeled

Recombinant purified *E. coli* GFP (~246-aa) was expressed as GST fusion proteins and purified protein injected into **goats** to produce high titer polyclonal antibodies. Antibodies (IgG) were purified by delipidation,

salt fractionation, and ion-exchange (IgG) (**cat # GFP11-A**). It is supplied in PBS, pH 7.4 at 100 ug/100 ul in liquid or powder form. Dissolve powder in 100 ul water and use at 1:1K-1: 5K for Western and 1:1K-: 10K for ELISA.

Suggested 2-ab

Rabbit Anti-goat IgG-HRP conjugate Cat #SA-30220 (AP, biotin, FITC conjugates also available)

-ve control IgG

SA-20011-1, Goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Cat# GFP11-C

Full length GFP form jellyfish *Aequorea Victoria* was expressed and purified (>95%). For WB +ve control, **Cat # GFP11-C**, is formulated in SDS-PAGE sample buffer (reduced). This preparation is not biologically inactive. It is not suitable for ELISA or other applications where native protein is required. It is supplied in 100 ul/vial. For WB, heat once and load 10 ul/lane and visualize with appropriate antibodies (#GFP11-M). If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the GFP11-C solution prior to heating and loading on gels. This preparation is intended for qualitative purpose and not to serve as standard of known concentration. Store frozen in suitable aliquots. Do not freeze, thaw, or heat repeatedly.

Antibody concentration must be optimized for each application under defined experimental conditions.

Specificity

Goat polyclonal Anti-GFP recognizes wild type, recombinant, and enhanced form of GFP (EGFP). Denatured-reduced forms of GFP-fusion proteins in immunoblotting, dot blot and ELISA. Purified recombinant GFP protein is available to optimize the antibody dilution and use as positive control (Cat #GFP15-R).

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

*This product is for In vitro research use only.