ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Recombinant Yellow Fluorescent Protein (YFP)

☐ **Cat.** YFP15-R Recomb. (E. coli) Yellow Fluorescent Proteins (YFP) protein for ELISA or Standards **SIZE**: 25 ug

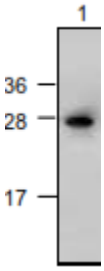
Recombinant DNA technology allows the addition of short pieces of well-defined tags, "peptides" or proteins at the amino or c-terminus of target genes, which can provide 'affinity handles' designed to bind specific matrices. Therefore, tags enables a selective identification and purification of the protein of interest. The addition of a green fluorescent protein (GFP) tag or red fluorescent protein (RFP) or yellow fluorescent protein (YFP) 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 fluorescent tagged product.



Yellow fluorescent protein (YFP) is a genetic mutant of green fluorescent protein (GFP) originally derived from the jellyfish Aequorea victoria. Its excitation peak is 514 nm and its emission peak is 527 nm. Like the parent GFP, YFP is a useful tool in cell and molecular biology due to its properties useful for fluorescence microscopy. Three improved versions of YFP are Citrine, Venus, and Ypet. They have reduced chloride sensitivity, faster maturation, and increased brightness (defined as the product of the extinction coefficient and quantum yield). Typically, YFP serves as the acceptor for genetically-encoded FRET sensors of which the most likely donor FP is monomeric cyan fluorescent protein (mCFP). The red-shift relative to GFP is caused by a Pi-Pi stacking interaction as a result of the T203Y substitution introduced by mutation, which essentially increases the polarizability of the local chromophore environment as well as providing additional electron density into the chromophore. "Venus" contains a novel amino acid substitution –F46L– which accelerates the oxidation of the chromophore at 37°C, the rate limiting step of maturation. The protein has other substitutions (F64L/ M153T/ V163A/ S175G), permitting Venus to fold well and giving it relative tolerance to acidosis and Cl−. Antibody reacting specifically with YFP may be useful in various immunotechniques, to identify the expression of a YFP fusion protein *in situ* and by immunoblotting, in bacteria, bacterial lysates or cells and tissues transfected with a YFP fusion protein expressing vectors. It may also be used to correlate levels of YFP protein expression with fluorescence intensity and for immunoprecipitation of YFP fusion proteins.

Source of Antigen and Antibodies

#YFP15-R



YFP was expressed and purified from E. coli (238-aa, ~27 Kda, >98%). Supplied in PBS, pH 7.4 in liquid or in lyophilized form. Reconstitute powder in water at 100 ug/ml or higher. Store at **-20°C** or below for long term storage.

Ex./Em. = 525/538 nm,.

Endotoxin has been removed, so the protein is suitable for in vivo injection or cell culture applications. Endotoxin <0.1 ng/ug. It is suitable for in in vivo studies.

Form & Storage of Antibodies/Peptide Control

Storage

Short-term: unopened, undiluted liquid vials at **-20°C** and powder at **4°C** or **-20°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

Recommended Usage

Western Blotting (use 100-500 ng/lane
YFP Mol wt ~27 kda

ELISA using 50-100 ng of protein/well).

Specificity & Cross-reactivity

Antibody reacts with YFP but not CFP. Other fluorescent proteins not tested. Purified YFP protein (#YFP15-R) and western control (#YFP11-C) can be used as positive control

General References: Karpova, T (Curr Protoc Cytom . 2006;Chapter 12; Piston DW Trends Biochem Sci 2007; Nagai T (2002) nat. Biotech. 20, 87-90; Shaner NC (2004) Nat Biotechnol. ;22:1567–1572; McAnaney TB Biochemistry.44:5510–5524

*This product is for In vitro research use only.

Related material available from ADI

Catalog# ProdDescription
800-420-GFP Green Fluorescent Protein (GFP-fusion protein) ELISA Kit,

EGFP16-R Enhanced Green Fluorescent Proteins (EGFP) protein for ELISA EGFP16-R-100 Enhanced Green Fluorescent Proteins (EGFP) protein for ELISA

GFP11-A Anti-Green Fluorescent Proteins (GFP, A. victoria) protein, IgG

GFP11-HRP Anti-Green Fluorescent Proteins (GFP, A. victoria) protein IgG-HRP

GFP12-M Monoclonal Anti-Green Fluorescent Proteins (GFP, A. victoria) IgG

GFP15-R Green Fluorescent Proteins (GFP) protein for ELISA or Standards

GFP15-R-100 Green Fluorescent Proteins (GFP) protein for ELISA

RFP12-M Monoclonal Anti-Red Fluorescent Proteins/Tag (RFP-tag; Discosoma sea anemomone) IgG

RFP15-R Recombinant (E. coli) Red Fluorescent Proteins (RFP/dsRed) protein for ELISA or Standards (>98%)

YFP11-A Anti-Yellow Fluorescent Proteins (YFP) protein IgG
YFP11-C Recombinant (E. coli) Yellow Fluorescent Proteins (YFP) protein control for Western blot

YFP15-R-Yellow-Fluorescent Protein 240612 161010A

Alpha Diagnostic Intl Inc., 4638 N Loop 1604 West, San Antonio, TX 78249, USA; **Email**: service@4adi.com
☎ (800) 786-5777; (210) 561-9515; **Fax**: (210) 561-9544; **Web Site**: www.4adi.com