

GFP tag Monoclonal antibody

Catalog Number: 66002-1-Ig 416 Publications

Basic Information

Catalog Number:

66002-1-Ig

Size:

2000 µg/ml

Source:

Mouse

Isotype:

IgG2a

Immunogen Catalog Number:

AG2128

GenBank Accession Number:

U73901

GeneID (NCBI):

Full Name:

Calculated MW:

26 kDa

Purification Method:

Protein A purification

CloneNo.:

1E10H7

Recommended Dilutions:

WB 1:20000-1:100000

IP 0.5-4.0 µg for 1.0-3.0 mg of total protein lysate

IF 1:20-1:200

Applications

Tested Applications:

FC, IF/ICC, IP, WB, ELISA

Cited Applications:

ChIP, CoIP, ELISA, FC, IF, IHC, IP, RIP, WB

Species Specificity:

recombinant protein

Cited Species:

human, rat, mouse, zebrafish, pig

Positive Controls:

WB : GFP transgenic mouse brain tissue, Recombinant protein

IP : Transfected HEK-293 cells,

IF : Transfected HEK-293 cells,

Background Information

Green fluorescence protein (GFP) is a protein composed of 238 amino acid residues (26.9kDa) derived from the jellyfish *Aequorea Victoria* which emits green light (emission peak at 509nm) when excited by blue light (excitation peak at 395nm). GFP, when exposed to light in the blue to ultraviolet spectrum, will show a bright green fluorescent light, making it a very useful tool in research. What is the molecular weight of GFP? 26.9 kDa How does GFP work? GFP was first isolated from the jellyfish *Aequorea Victoria*, a source of bioluminescence, in the 1960s and in 2008 the Nobel Prize in Chemistry was awarded "for the discovery and development of the green fluorescent protein, GFP" to Osamu Shimomura and colleagues, who recognized its potential in research (PMID: 13911999). A short amino acid sequence within the protein acts as the chromophore, which absorbs UV light at 395 nm and emits green light at 509 nm. Why is GFP a useful reporter? When GFP was sequenced in 1992 (PMID: 1347277) it allowed scientists to express it in other organisms using transgenic techniques. It does not require cofactors to work, is non-toxic to live cells, and is relatively small, making it ideal as a "tag" for other proteins, identifiable by shining a UV light and observing the green fluorescence. The tertiary folded structure of GFP forms a chromophore at the center of a barrel shape, which protects the fluorescence-emitting amino acid chain from solvents, meaning it can function in many environments (PMID: 9759496). What are the applications for GFP? When expressed attached to another protein, GFP can be used as a reporter gene to measure expression levels or can easily be used in fluorescence microscopy. It has been used to highlight proteins in a variety of model organisms, including bacteria, zebrafish, and mice.

Notable Publications

Author	Pubmed ID	Journal	Application
Yueke Lin	36178239	EMBO Rep	IP
Yajie Chen	31570706	Cell Death Dis	
Po-Hsun Wang	31632419	Front Plant Sci	

Storage

Storage:

Store at -20°C. Stable for one year after shipment.

Storage Buffer:

PBS with 0.02% sodium azide and 50% glycerol pH 7.3.

Aliquoting is unnecessary for -20°C storage

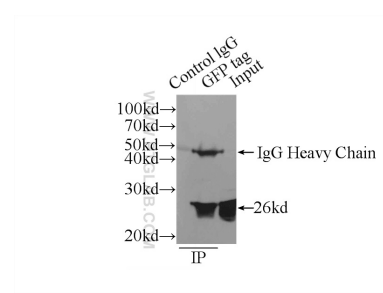
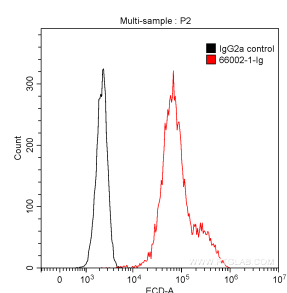
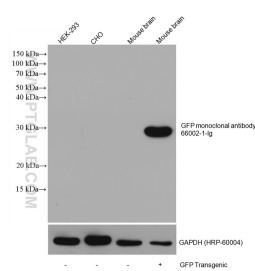
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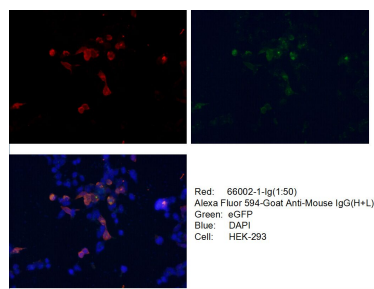
Selected Validation Data



HEK293 cells, CHO cells, normal mouse brain and GFP transgenic mouse brain were subjected to SDS PAGE followed by western blot with 66002-1-Ig (GFP tag antibody) at dilution of 1:200000 incubated at room temperature for 1.5 hours.

1X10⁶ Transfected HEK-293 cells were stained with 0.2 ug Anti-GFP tag (66002-1-Ig, Clone:1E10H7) and CoraLite®594-Conjugated AffiniPure Goat Anti-Mouse IgG(H+L) at dilution 1:1000 (red), and 0.2 ug Control Antibody. Cells were fixed with 90% MeOH.

IP result of anti-GFP tag (IP:66002-1-Ig, 4ug; Detection:66002-1-Ig 1:2000) with the vector plasmid pEGFP-N1 Transfected HEK-293 cells lysate 300ug.



Immunofluorescent analysis of Transfected HEK-293 cells using 66002-1-Ig (GFP tag antibody) at dilution of 1:50 and Alexa Fluor 594-conjugated AffiniPure Goat Anti-Mouse IgG (H+L).