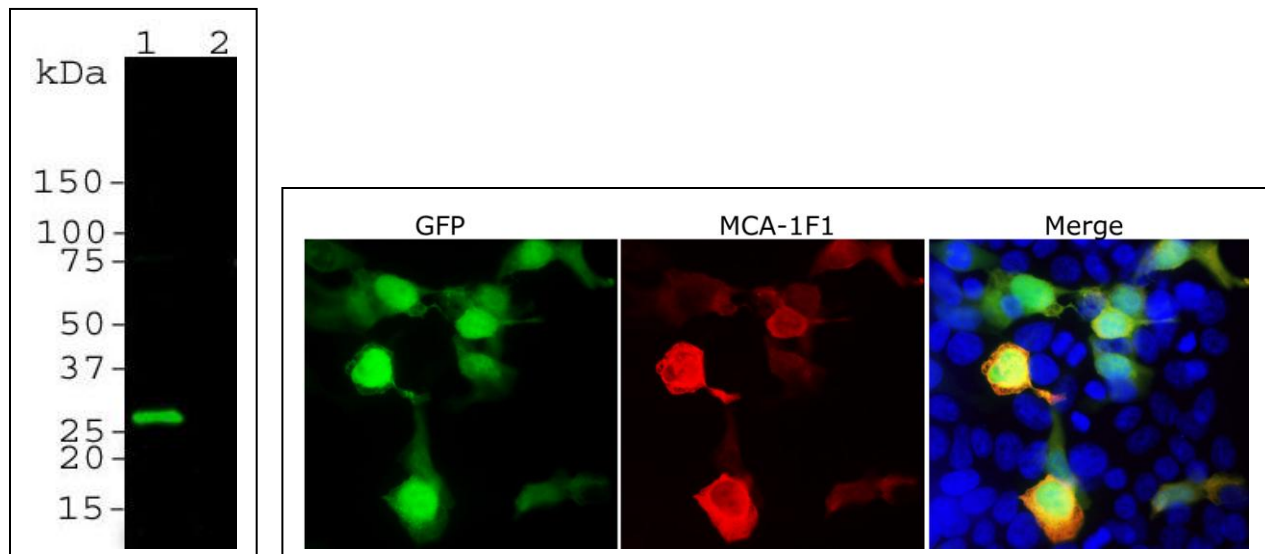


Catalogue# MCA-1F1: Monoclonal Antibody against GFP

[Green Fluorescent Protein \(GFP\)](#) is a ~27 kDa protein isolated originally from the jellyfish *Aequoria victoria*. It is a fluorescent protein with an excitation maximum at 395 nm and emission maximum at 509 nm, so that when excited with blue or UV light, it emits green light (1). The fluorescence of GFP requires only the polypeptide chain and molecular oxygen and no other cofactors, so it can be expressed in fluorescent form in essentially any prokaryotic or eukaryotic cell. GFP has been engineered to produce a vast number of variously colored mutants including blue, cyan and yellow protein derivatives, such as BFP, CFP and YFP etc (2-4). GFP and these derivatives are widely used as fluorescent tracers in transfection and transgenic experiments to monitor gene expression and protein localization *in Vivo*. GFP was the basis of the [2008 Nobel Prize in Chemistry](#), awarded to Osamu Shimomura, Martin Chalfie and Roger Tsien, specifically "for the discovery and development of the green fluorescent protein, GFP".



Left: Blot of Crude homogenate from HEK293 cells transfected with pFin-EF1-GFP vector (lane1) and non-transfected HEK293 (lane2) was probed with MCA-1F1 antibody. The pFin-EF1-GFP vector is from the laboratory of Dr Susan Semple-Rowland, University of Florida and expresses full length GFP. There is a strong clean band at about 27kDa in transfected cells corresponding to GFP which is absent from non-transfected cells. **Right:** Transfected HeK293 cells which overexpressed GFP protein were stained with MCA-1F1 at 1: 2,000. Cells which are transfected with GFP are bright green in the left panel. Staining with MCA-1F1 is shown in red in the middle panel. Most Hek293 cells are not transfected so only the nucleus of these cells can be visualized with a blue DNA. Red antibody staining is only seen in cells which express GFP, as expected, and the superimposition of green and red results in an orange signal in the merged image (right panel).

Antibody characteristics: MCA-1F1 was raised against GFP expressed in and purified from *E.Coli*. The antibody works on western blot and immunofluorescence. The antibody is a mouse IgM with a κ light chain. Store at 4°C. For safest long-term storage, maintain aliquots at -20°C.

Suggestions for use: The antibody is provided as purified material at 1mg/mL in PBS with 50 %glycerol. We recommend trying the antibody at 1:1,000-5,000 for western blotting and immunofluorescence purposes.

Limitations: This product is for research use only and is not approved for use in humans or in clinical diagnosis.

References:

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3. Heim R, Prasher DC, Tsien RY. Wavelength mutations and posttranslational autoxidation of green fluorescent protein. [Proc. Natl. Acad. Sci. USA 91:12501-04 \(1994\)](#).
4. Lelimosin M, Noirclerc-Savoye M, Lazareno-Saez C, Paetzold B, Le Vot S, Chazal R et al. Intrinsic dynamics in ECFP and Cerulean control fluorescence quantum yield. [Biochemistry 48:10038–10046](#).

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