

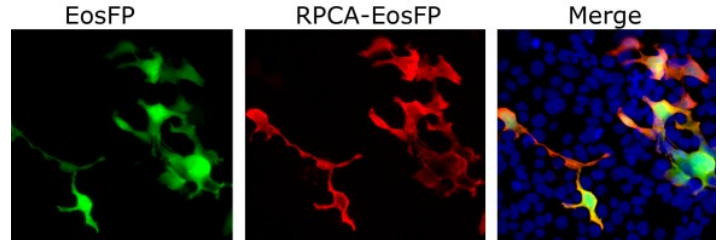
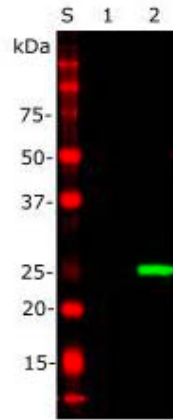
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**HGNC Name:** N.A.  
**UniProt:** Q556Z9  
**RRID:** AB\_2572312  
**Immunogen:** Full length recombinant EosFP protein expressed in *E. coli*  
**Format:** Antibody is provided as aliquot of crude serum  
**Storage:** Shipped on ice. Store at 4°C. For long term storage, leave frozen at -20°C. Avoid freeze / thaw cycles.  
**Recommended dilutions:**  
 WB: 1:1,000-5,000 IF/IHC: 1:5,000

**References:**

1. Wiedenmann J, et al. EosFP, a fluorescent marker protein with UV-inducible green-to-red fluorescence conversion. *PNAS* 101:15905-10 (2004).
2. Fosque BF, et al. Neural circuits. Labeling of active neural circuits in vivo with designed calcium integrators. *Science* 347:755-60 (2015).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, ICC/IF	Rabbit	IgG	~25kDa	N.A.



Western blot analysis of RPCA-EosFP. Lane 1: Non-transfected HEK293 crude homogenate. Lane 2: Crude homogenate of transfected HEK293 cells which overexpress protein EosFP. Lane S: Protein standard of indicated molecular weight. RPCA-EosFP at 1:1,000 dilution reveals a strong clean band at ~25 kDa corresponding to EosFP in transfected cells, which is absent from non-transfected cells.

HEK293 cells were transfected EosFP (left image) and stained with RPCA-EosFP followed by goat anti-rabbit Alexa-594 conjugate (middle image). The right image shows the two images superimposed, clearly RPCA-EosFP staining closely matches EosFP expression.

**Background:**

Fluorescent proteins have become widely used in a variety of experimental paradigms since the characterization of the first one, Green Fluorescent Protein (GFP) about 20 years ago. Some of these fluorescent proteins have the useful property of changing their emission spectrum from green to red following irradiation with blue or UV light, which allows simple but powerful pulse chase type experiments to be performed using more or less standard fluorescence microscopes. We have expressed in *E. coli* a purified protein originally isolated from *Lobophyllia hemprichii*, a type of stony coral. The protein was described in Wiedenmann et al. (2004) and named EosFP, after Eos, the goddess of dawn in Greek mythology. Upon appropriate irradiation the protein changes emission from 516 nm to 581 nm, which happens to fit very conveniently to typical green (~498 nm) and red (~594 nm) filters on fluorescence microscopes. The emission shift is due to an irreversible covalent modification in the fluorochrome and is dependent on the His residue in the His-Tyr-Gly sequence that produces the fluorescence. The original coral protein was mutagenized to prevent tetramerization and dimerization, a requirement if the protein is to be used for fusion protein generation useful for FRET and similar techniques. A recent advance was the development of CaMPARI, an acronym for "Calcium-Modulated Photoactivatable Ratiometric Integrator" (2). This construct contains the GCaMP Calcium indicator fused to two EosFP domains, and will only transit from green to red when there is a coincidence between Calcium level elevation and the appropriate wavelength of light. This allows functional mapping of cellular activation in real time in appropriate transgenic animals (2).

The RPCA-EosFP antibody was made against the full length EosFP protein expressed in and purified from *E. coli*. The sequence expressed is identical to that listed in Uniprot entry Q556Z9. It can be used to verify the expression of an EosFP containing protein construct or to amplify the EosFP signal in cells or tissues.

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**Abbreviation Key:**

**mAb**—Monoclonal Antibody **pAb**—Polyclonal Antibody **WB**—Western Blot **IF**—Immunofluorescence **ICC**—Immunocytochemistry  
**IHC**—Immunohistochemistry **E**—ELISA **Hu**—Human **Mo**—Monkey **Do**—Dog **Rt**—Rat **Ms**—Mouse **Co**—Cow **Pi**—Pig **Ho**—Horse **Ch**—Chicken  
**Dr**—*D. rerio* **Dm**—*D. melanogaster* **Sm**—*S. mutans* **Ce**—*C. elegans* **Sc**—*S. cerevisiae* **Sa**—*S. aureus* **Ec**—*E. coli*.