

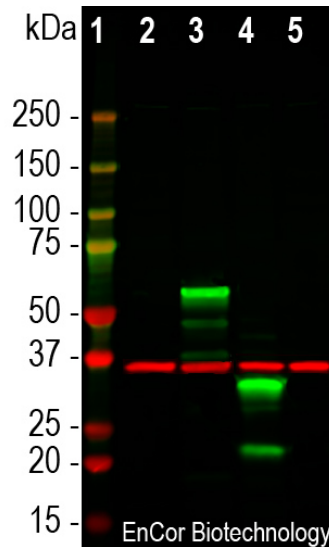
Ordering Information
 Web www.encorbio.com
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 Phone 352-372-7022
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HGNC Name: NA
UniProt: D1MPT3
RRID: AB_2571870
Immunogen: Full length recombinant mCherry protein
Format: Affinity purified antibody at 1 mg/mL in 50% PBS, 50% glycerol plus 5mM Na₂S₂O₃
Storage: Store at 4°C for short term, For longer term at -20°C.
Recommended dilutions:
 WB: 1:5,000-10,000 IF/ICC: 1:5,000. IHC: 1:5,000

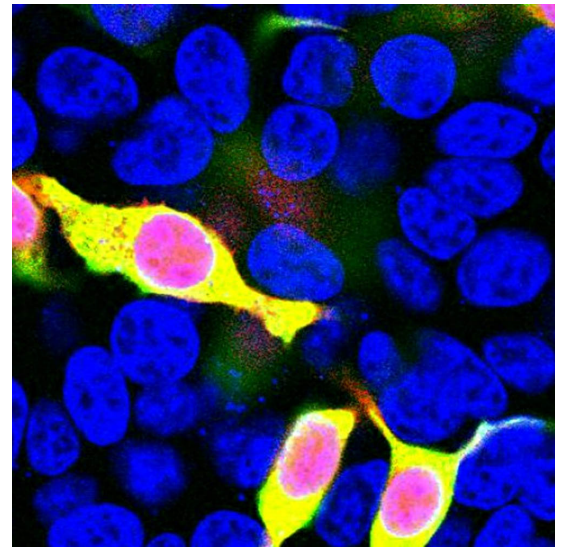
References:

- Baird GS, Zacharias DA, Tsien RY. Biochemistry, mutagenesis, and oligomerization of DsRed, a red fluorescent protein from coral. *PNAS* 97:11984-9 (2000).
- Gross LA, et al. The structure of the chromophore within DsRed, a red fluorescent protein from coral. *PNAS* 97:11990-5 (2000).
- Heikal AA, et al. Molecular spectroscopy and dynamics of intrinsically fluorescent proteins: coral red (dsRed) and yellow (Citrine). *PNAS* 97:11996-2001 (2000).
- Shaner NC, et al. Improved monomeric red, orange and yellow fluorescent proteins derived from *Discosoma* sp. red fluorescent protein. *Nat. Biotech.* 22:1567-72 (2004).

| Applications | Host | Isotype | Molecular Wt. | Species Cross-Reactivity |
|----------------|--------|---------|---------------|--------------------------|
| WB IF/ICC, IHC | Rabbit | | ~28kDa | NA |



Western blot analysis of HEK293 cell lysates using rabbit pAb to mCherry, RPCA-mCherry, dilution 1:3,000, in green, and mouse mAb to GAPDH, MCA-1D4 dilution 1:2,000, in red: [1] protein standard, [2] HEK293 control cells, [3] HEK293 cells transfected with pCI-Neo-mod vector expressing two tdTomato protein domains, [4] HEK293 cells transfected with pCI-mod vector expressing one mCherry-HA protein domain, and [5] HEK293 cells transfected with pCI-Neo-mod vector expressing one GFP domain. The RPCA-mCherry antibody recognizes tdTomato and mCherry proteins revealing major bands at about 60kDa and 30kDa, in green, respectfully, but does not recognize GFP. The red band at 37kDa corresponds to GAPDH protein here used as a loading control.



Immunofluorescent analysis of HEK293 cells transfected with mCherry-HA, construct, in red, and stained with rabbit pAb to mCherry, RPCA-mCherry, dilution 1:1,000, in green. The blue is Hoechst staining of nuclear DNA. RPCA-mCherry antibody reveals mCherry protein expressed only in transfected cells which appear golden in color. Untransfected cells do not react with the antibody, as a result only their nuclei are visible.

Background:

The mCherry protein is engineered from a fluorescent protein originally isolated from a coral and is widely used as a tracer in transfection and transgenic experiments. The prototype for these fluorescent proteins is **Green Fluorescent Protein (GFP)**, which is a ~27kDa protein isolated originally from the jellyfish *Aequoria victoria*. 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". The mCherry protein is derived from DsRed, a red fluorescent protein related to GFP isolated from disc corals of the genus *Discosoma*. DsRed is similar in size and properties to GFP, but, obviously, produces a red rather than a green fluorochrome. The original DsRed was engineered extensively in the **Tsien lab** to prevent it from forming tetramers and dimers and to modify and improve the spectral properties (1-3). Several further cycles of mutation, directed modification and evolutionary selection produced mCherry, which has an excitation maximum at 587nm and an emission maximum at 610nm (4). The same lab engineered other fluorescent DsRed derivatives such as tdTomato, mOrange, mStrawberry and others. This antibody likely binds all these variants and is known to bind tdTomato.

RPCA-mCherry antibody was made against full length recombinant mCherry protein expressed in and purified from *E. coli*, our product **prot-r-mCherry**. The antibody recognizes mCherry on western blots, in appropriate cells and sections, and does not react with GFP. The antibody also binds the closely related protein tdTomato and works on formalin fixed paraffin embedded sections, select "Additional Info" tag for this data. RPCA-mCherry antibody can be used to verify the size of fusion constructs by western blotting, and to amplify the endogenous fluorescence of mCherry in transfected cells. We also supply a mouse monoclonal antibody to mCherry, **MCA-1C51** and **MCA-5A6**, as well as chicken and goat polyclonal antibodies to this protein, **CPCA-mCherry** and **GPCA-mCherry** respectively.

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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*.

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