

Cat. No:	MAB-94019
Conjugate:	Unconjugated
Size:	100 ug
Clone:	1C51
Concentration:	1mg/ml
Host:	Mouse
Isotype:	IgG2a heavy, κ light
Immunogen:	Full length recombinant protein
Reactivity:	All Species
Applications:	Western Blot: 1:2,000 Immunofluorescence: 1:500 Immunohistochemistry: 1:500
Molecular Weight:	~28kDa
Purification:	Purified

Background:

mCherry protein is derived from a natural product, DsRed, originally isolated as a red fluorescent protein from the coral of the genus *Discosoma* (1). As with other natural fluorescent proteins of Cnidarians (jelly fish, sea anemones, and corals), the natural form of the protein forms stable tetramers in vivo. DsRed was engineered to improve its spectral properties and also prevent oligomerization in the Tsien lab, where much work on fluorescent proteins was performed (2). Roger Tsien, along with Martin Chalfie, and Osamu Shinomura shared the 2008 Nobel prize in chemistry for the discovery and exploitation of Cnidarian fluorescent proteins. Several further cycles of mutation, directed modification and evolutionary selection produced mCherry, which is monomeric and has an excitation maximum at 587nm and emission maximum at 610nm (3). The protein is widely used as a fluorescent tracer in transfection, transgenic, photobleaching and FRET type experiments. The prototype for these fluorescent proteins is Green Fluorescent Protein (GFP), which is a ~27kDa protein isolated originally from the jellyfish *Aequorea victoria* (4). The mCherry protein is similar in size and general structural properties to GFP (5,6), but, obviously, produces a red rather than a green fluorochrome. As with GFP, mCherry becomes fluorescent due to intrinsic properties requiring only molecular oxygen and so can be readily expressed in a variety of systems.

Form:	Liquid
Buffer:	Purified at 1mg/mL in 50% PBS, 50% glycerol, 5mM Na ₃
Storage:	Stable at 4°C for one year, for longer term store at -20°C

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