mCherry Full Length Recombinant Protein

PROT-r-mCherry

Ordering Information
Web www.encorbio.com
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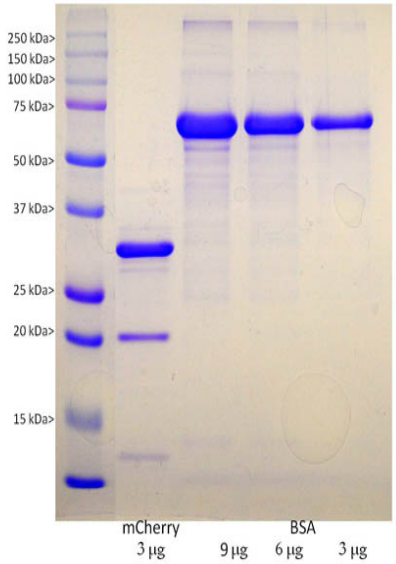
Phone 352-372-7022
Fax 352-372-7066

HGNC Name: *NA*
RRID: *NA*
Format: *1mg/mL in 6M urea, 10mM Phosphate pH=7.5*
Storage: *Stable at 4°C for several months. For longer term store at -20°C or lower*
UniProt: *X5DSL3 (X5DSL3_ANAMA)*

Applications	Host	Molecular Wt.	HGNC	UniPort
Fluorescent protein standard, immunogen for antibody production			NA	X5DSL3 (X5DSL3_ANAMA)



The lane on the left contains Biorad SDS-PAGE molecular weight standards of the indicated molecular size. His-tagged recombinant mCherry was run out on an SDS-PAGE gel at 3µg in the second lane. BSA was also run at 9µg, 6µg and 3µg in the next lanes as indicated. The vector adds an C-terminal His-tag which was use to purify the protein and this adds about 5kDa to the molecule, which therefore runs at about 34kDa. The mCherry protein is known to be somewhat unstable, and this accounts for the band at about 20kDa, which is clearly derived from the intact protein as it is immunoreactive with mCherry antibodies.

Background:

The mCherry protein is derived from DsRed, a red fluorescent protein from the disc coral genus *Discosoma*. The protein 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. Several further cycles of mutation, directed modification and evolutionary selection produced mCherry. The mCherry protein sequence was deposited in NCBI entry AY678264, identical to that in Uniprot entry X5DSL3, and is also identical to that found in many expression vectors such as pGGD003. We generated a cDNA encoding this mCherry protein and expressed this in *E. coli*. The vector adds an C-terminal His-tag which was use to purify the protein and this, along with some other vector derived sequence, adds about 5kDa to the molecule. The construct therefore has a total size of about 34 kDa as shown.

References:

1. Baird GS, Zacharias DA, Tsien RY. Biochemistry, mutagenesis, and oligomerization of DsRed, a red fluorescent protein from coral. PNAS 97:11984-9 (2000).
2. Gross LA et al. The structure of the chromophore within DsRed, a red fluorescent protein from coral. PNAS 97:11990-5 (2000).
3. Heikal AA et al. Molecular spectroscopy and dynamics of intrinsically fluorescent proteins: coral red (dsRed) and yellow (Citrine). PNAS 97:11996-2001 (2000).
4. Shaner NC et al. Improved monomeric red, orange and yellow fluorescent proteins derived from Discosoma sp. red fluorescent protein. Nat. Biotech. 22:1567-1572 (2004).

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.