

Due to the advancements in fluorescence microscopy, spatial resolution has been broadened to the nanometer scale. This technology, termed super resolution imaging, will allow researchers the ability to image cellular events in a much higher level of clarity and detail. One class of proteins, which have recently been used as a tool for performing this type of imaging, is called photoconvertible fluorescent proteins (pcFP). With mMaple, Allele Biotech offers a new high performance pcFP which provides superior qualities for super resolution imaging.

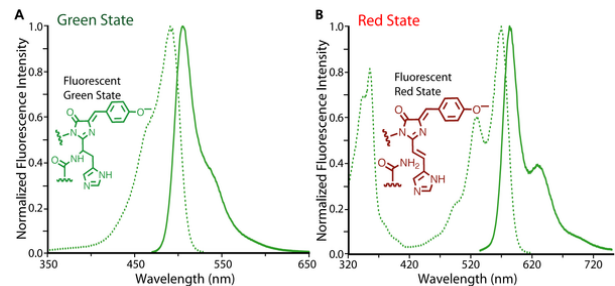
## Description

mMaple is a monomeric green-to-red pcFP variant derived from mClavGR2. This pcFP possess significant benefits over similar FP's for most imaging applications. The ability to photoconvert from green-to-red and the high green state brightness allows mMaple to be utilizing in (f-)PALM/STORM and SIM super resolution microscopy techniques. Studies showed that mMaple constructs reliably yielded more protein localizations than mEos2 or mClavGR2 per cell (3.4× and 2.3×, respectively)<sup>[1]</sup>. Other advantages include high concentration of properly folded fusion proteins and elevated photostability.

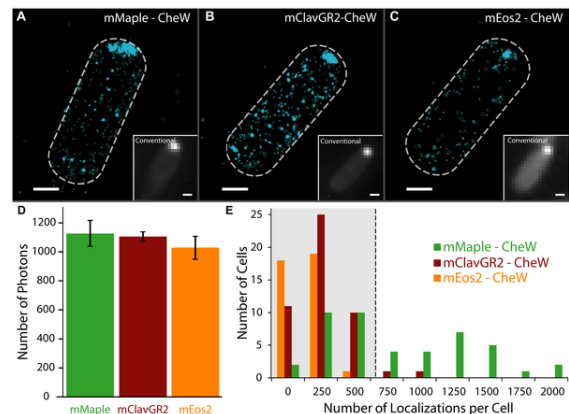
## Features

- ◆ Photoswitchable green-to-red
- ◆ Brighter green state fluorescence intensity
- ◆ High Photostability
- ◆ Can be used for both (f-)PALM/STORM and SIM

**Figure 1 | Spectral characterization of mMaple<sup>[1]</sup>**



**Figure 2 | (f-)PALM/STORM comparison of mMaple, mClavGR2 and mEos2.<sup>[1]</sup>**



### Box 1 | Basic Info<sup>[1]</sup>

mMaple pcFP	$\lambda_{ex}$	$\lambda_{em}$	$\epsilon$ (mM <sup>-1</sup> cm <sup>-1</sup> )	$\Phi$	Brightness	pK <sub>a</sub>
Green state	489	505	15 @ pH 4: 26, @ pH 10: 59	0.74	11	8.2
Red state	566	583	30	0.56	17	7.3

### Citations

1. A.L. McEvoy\*, H. Hoi, M. Bates, E. Platonova, P.J. Cranfill, M.W. Davidson, H. Ewers, J. Liphardt, and R.E. Campbell\*, "mMaple: a photoconvertible fluorescent protein for use in multiple imaging modalities". PLoS ONE, 2012,7(12): e51314.