

Fluorescent Protein Expression Plasmid

CoralHue[®]

Plasma Membrane-targeted mKusabira-Orange 1 (pPM-mKO1)

Code No.
AM-V0223M

Quantity
20 µg

BACKGROUND: This plasmid is designed for expression of plasma membrane-targeted *CoralHue*[®] Monomeric Kusabira Orange 1 (PM-mKO1) in mammalian cells. *CoralHue*[®] Kusabira Orange 1 (KO1) has been cloned from the stony coral, whose Japanese name is “Kusabira-ishi”. It absorbs light maximally at 548 nm and emits orange light at 561 nm. *CoralHue*[®] KO1 rapidly matures to form a brightly fluorescent dimer. *CoralHue*[®] KO1 has been carefully engineered to form a monomer, *CoralHue*[®] Monomeric Kusabira Orange 1 (mKO1) that maintains the brilliance and pH stability of the parent protein. Targeting of mKO1 to the Plasma Membrane is achieved with the signal peptide fused to the N-terminus of mKO1.

SOURCE: The *CoralHue*[®] KO1 gene was cloned from stony coral “Kusabira-ishi (*Fungia concinna*).”

FORMULATION: Dry form. Reconstitute with distilled water or TE before use.

PURITY: A260/A280 > 1.5

STORAGE: Store at -20°C

SEQUENCE LANDMARKS (bases):

CoralHue[®] PM-mKO1 (Including Stop Codon): 1-720
CMV promoter: 4063-4635
SV40 polyA: 873-907
Kanamycin/Neomycin resistance gene: 1950-2741
pUC origin: 3329-3972
f1 origin: 970-1425
SV40 origin: 1766-1901

INTENDED USE:

For Research Use Only. Not for use in diagnostic procedures.

REFERENCE:

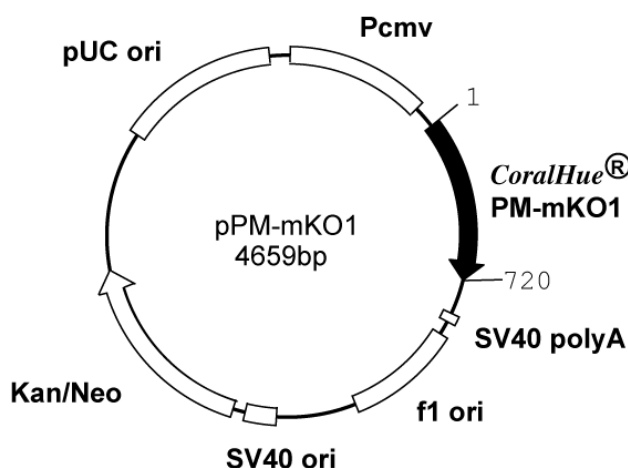
1) Karasawa, S., *et al. Biochem. J.* **381**, 307-312 (2003)

GenBank:

Accession Numbers: AB128819, AB128821

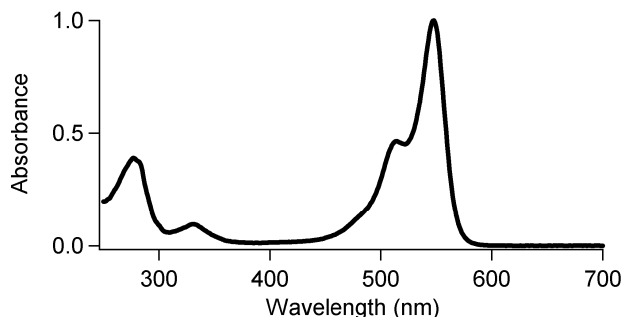
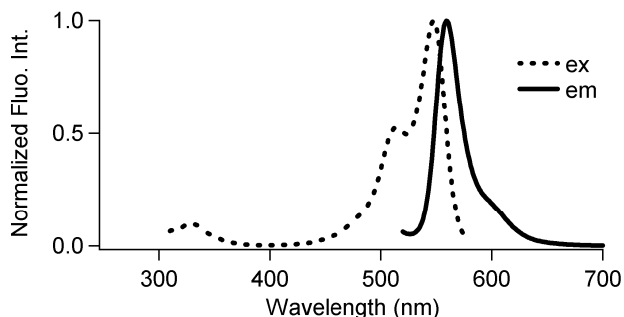
RELATED PRODUCTS:

- AM-V0221M *CoralHue*[®] Mitochondria-targeted monomeric Kusabira-Orange 1
- AM-V0222M *CoralHue*[®] ER-targeted monomeric Kusabira-Orange 1
- AM-V0225M *CoralHue*[®] □-Actin monomeric Kusabira-Orange 1
- AM-V0234M *CoralHue*[®] Nucleoplasm-targeted Kusabira-Orange 1



CoralHue[®] mKO1: 218 amino acids (without PM signal sequence)

	Excit./Emiss.Maxima (nm)	Extinction Coefficient(M-1cm-1)	Fluorescence Quantum Yield	pH sensitivity
mKO1	548/559	51,600 (548 nm)	0.60	pKa=5.0



CoralHue[®] PM-mKO1

1) DNA sequence

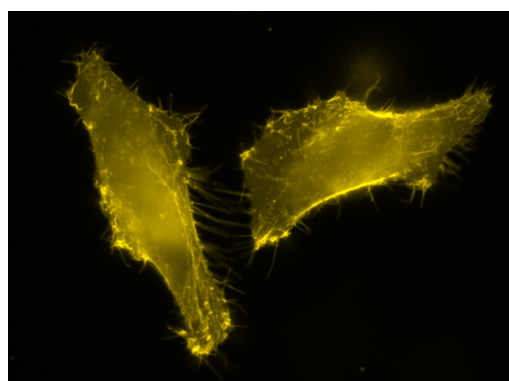
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TGAAGATGAGGTACTACATGGACGGCTCCGTCAATGGGCATGAG
TTCACAATTGAAGGTGAAGGCACAGGCAGACCTTACGAGGGACA
TCAAGAGATGACACTACGGTCACAATGGCCAAGGGGGGCCAA
TGCCTTTCGGGTTTACTAGTGTACACGTGTTCTGTTACGGC
CACAGACCTTTTACTAAATATCCAGAAGAGATACGAGACTATTT
CAAACAAGCATTTCTGAAGGCCTGTCATGGGAAAGGTCGTTGG
AGTTCGAAGATGGTGGGTCCGCTTCAGTCAGTGGGCATATAAGC
CTTAGAGGAAAACCTTCTACCACAAATCAAATTTACTGGGGT
TAACTTTCCTGCCGATGGTCTATCATGCAAACCAAAGTGTG
ATTGGGAGCCATCAACCGAGAAAATTACTGCCAGCGACGGAGTT
CTGAAGGGTGATGTTACGATGTACCTAAAACCTGAAGGAGGCGG
CAATCACAAATGCCAATTCAAGACTACTTACAAGGCGGCAAAAA
AGATTCTTAAAATGCCAGGAAGCCATTACATCAGCCATCGCCTC
GTCAGGAAAACCGAAGGCAACATTACTGAGCTGGTAGAAGATGC
AGTAGCTCATTCC

(Underlined sequences in red are from Lyn.)

2) Amino acid sequence

MGCIKSKRKDNLNDDGVDMDPMVSVIKPEMKMRYMDGSVNGHE
FTIEEGTGRPYEGHQEMTLRVTMAKGGPMPFAFDLVSHVFCYG
HRPFTKYPEEIPDYFKQAFPEGLSWERSLEFEDGGSASVSAHIS
LRGNTFYHKSFTGVNFPADGPIMQNSVDWEPSTEKITASDGV
LKGDTVMYLKLEGGGNHKGQFKTTYKAAKILKMPGSHYISHRL
VRKTEGNITELVEDAVAHS

(Underlined sequences in red are from Lyn.)



CoralHue[®] PM-mKO1 expression in HeLa cells.

CoralHue[®] mKO1 is a product of co-development with Dr. Atsushi Miyawaki at the Laboratory for Cell Function and Dynamics, the Brain Science Institute, and the Institute of Physical and Chemical Research (RIKEN).

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