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

Amalgaam MBL

Fluorescent Protein Expression Plasmid

CoralHue®

Mitochondria-targeted monomeric Keima-Red (pMT-mKeima-Red)

Code No.	Quantity
AM-V0251M	20 µg

BACKGROUND: This plasmid is designed for expression of Mitochondria-targeted ***CoralHue***® monomeric Keima-Red (MT-targeted mKeima-Red) in mammalian cells. ***CoralHue***® Keima-Red has been cloned from the stony coral, whose Japanese name is "Komon-Sango". A monomeric version of ***CoralHue***® Keima-Red (mKeima-Red) absorbs light maximally at 440 nm and emits red light at 620 nm with a large Storks-shift, providing another option for multicolor fluorescence analyses. Targeting of mKeima-Red to the mitochondria is achieved with the signal peptide fused to the N-terminus of mKeima-Red.

SOURCE: The ***CoralHue***® Keima-Red gene was originally cloned from the stony coral "Komon-Sango (*Montipora* sp.)."

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® MT-targeted mKeima-Red (Including Stop Codon): bases 1-750
CMV promoter: bases 4106-4678
SV40 polyA: bases 916-950
Kanamycin/Neomycin resistance gene: bases 1993-2784
pUC origin: bases 3372-4015
f1 origin: bases 1013-1468
SV40 origin: bases 1809-1944

REFERENCE:
1) Kogure, T., *et al.*, *Nat. Biotechnol.* **24**, 577-581 (2006)

INTENDED USE:
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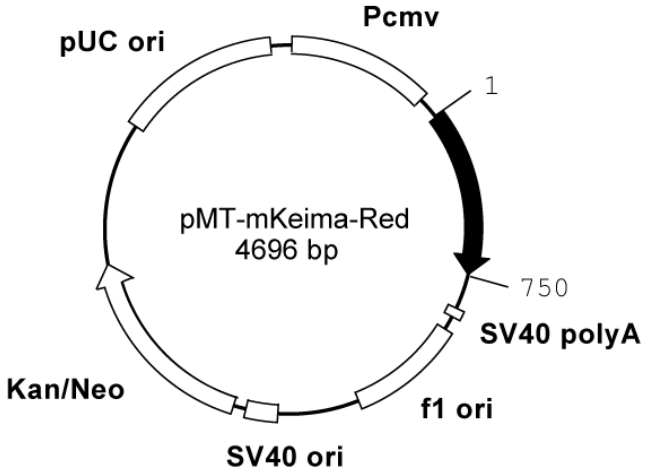
GenBank:
Accession Numbers: AB209967, AB209968, AB209969

RELATED PRODUCTS:

AM-V0253M	***CoralHue***® Plasma Membrane-targeted mKeima-Red (pPM-mKeima-Red)
AM-V0274M	***CoralHue***® Nucleoplasm-targeted humanized dKeima-Red (pNP-hdKeima-Red)
AM-V0324M	***CoralHue***® Nucleoplasm-targeted humanized dKeima570 (pNP-hdKeima507)



Amalgaam MBL MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
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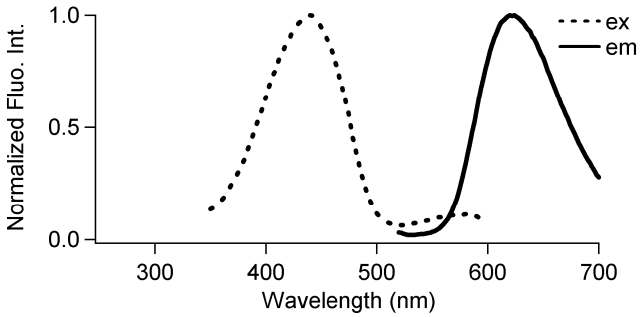
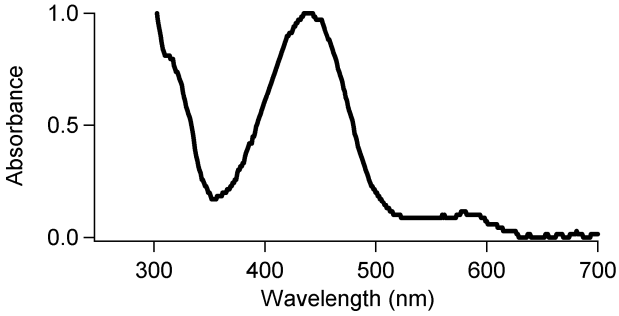
***CoralHue*® mKeima-Red:** 222 amino acids (without MT signal sequence)

	Excit./Emiss.Maxima (nm)	Extinction Coefficient($M^{-1}cm^{-1}$)	Fluorescence Quantum Yield	pH sensitivity
mKeima-Red	440/620	14,000 (440 nm)	0.24	p*K* a=6.5





CoralHue® MT-targeted mKeima-Red

1) DNA sequence

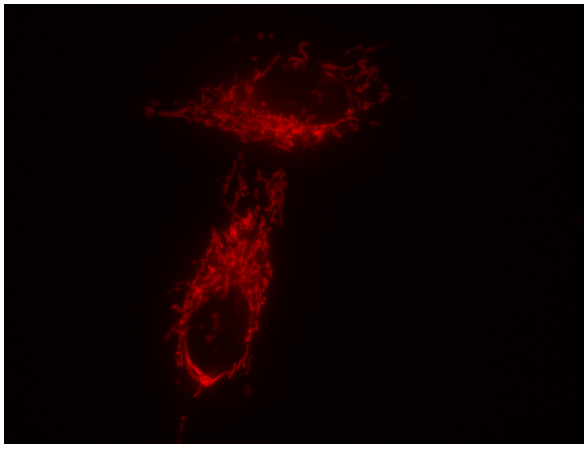
ATGCTGAGCCTGCGCCAGAAGTATCCGCTTCTTCAAGCCCGCCAC
CAGGACTCTGTGCAGTTCCAGGGCGGCCGCGGGGACAATGGTGA
GTGTGATCGCTAAACAAATGACCTACAAGGTTTATATGTCAGGC
ACGGTCAATGGACACTACTTTGAGGTCGAAGGCGATGGAAAAGG
AAAGCCTTACGAGGGAGAGCAGACAGTAAAGCTCACTGTCACCA
AGGGTGGACCTCTGCCATTTGCTTGGGATATTTTATCACCACAG
CTTCAGTACGGAAGCATACCATTCACCAAGTACCCTGAAGACAT
CCCTGATTATTTCAAGCAGTCATTCCCTGAGGGATATACATGGG
AGAGGAGCATGAACTTTGAAGATGGTGCAGTGTGTACTGTCAGC
AATGATTCCAGCATCCAAGGCAACTGTTTCATCTACAATGTCAA
AATCTCTGGTGAGAACTTTCCTCCCAATGGACCTGTTATGCAGA
AGAAGACACAGGGCTGGGAACCCAGCACTGAGCGTCTCTTTGCA
CGAGATGGAATGCTGATAGGAAACGATTATATGGCTCTGAAGTT
GGAAGGAGGTGGTCACTATTTGTGTGAATTTAAATCTACTTACA
AGGCAAAGAAGCCTGTGAGGATGCCAGGGCGCCACGAGATTGAC
CGCAAACTGGATGTAACCAGTCACAACAGGGATTACACATCTGT
TGAGCAGTGTGAAATAGCCATTGCACGCCACTCTTTGCTCGGT

(Underlined sequences in red are from cytochrome C oxidase subunit IV.)

2) Amino acid sequence

MLSLRQSIRFFKPATRTLCSSRAAAGTMVSVIAKQMTYKVYMSG
TVNGHYFEVEGDGKGKPYEGEQTVKLTVTKGGPLPFAWDILSPQ
LQYGSIPFTKYPEDIPDYFKQSFPEGYTWERSMNFEDGAVCTVS
NDSSIQGNCFIYNVKISGENFPPNGPVMQKKTQGWEPSTERLFA
RDGMLIGNDYMALKLEGGGHYLCEFKSTYKAKKPVRMPGRHEID
RKLDVTSHNRDYTSVEQCEIAIARHSLLG

(Underlined sequences in red are from cytochrome C oxidase subunit IV.)



***CoralHue*® MT-targeted mKeima-Red expression in HeLa cells.**

***CoralHue*® Keima-Red** 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).