

Fluorescent Protein Expression Plasmid

CoralHue™

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

Code No.
AM-V0251M

Quantity
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 Stokes-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:

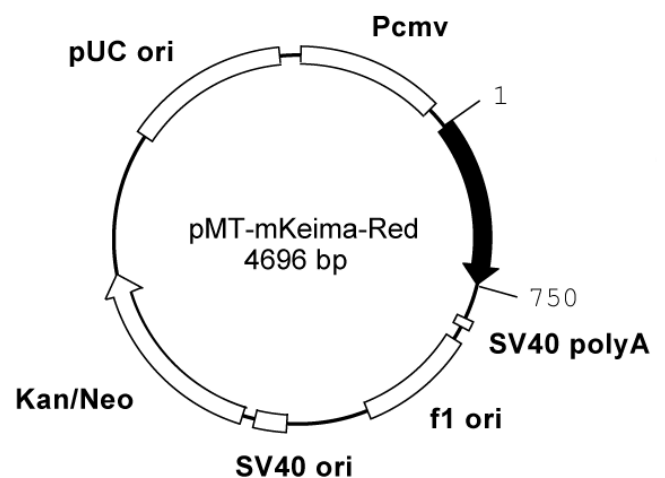
For Research Use Only. Not for use in diagnostic procedures.

GenBank:

Accession Number: AB209969

RELATED PRODUCTS:

Please visit our website at <https://ruo.mbl.co.jp/>.



Amalgaam

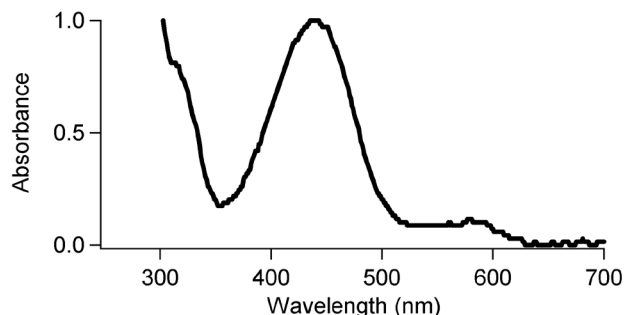
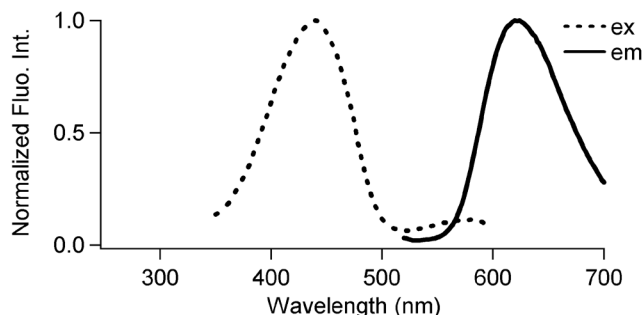
MBL

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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 | pK _a =6.5 |



CoralHue™ MT-targeted mKeima-Red

1) DNA sequence

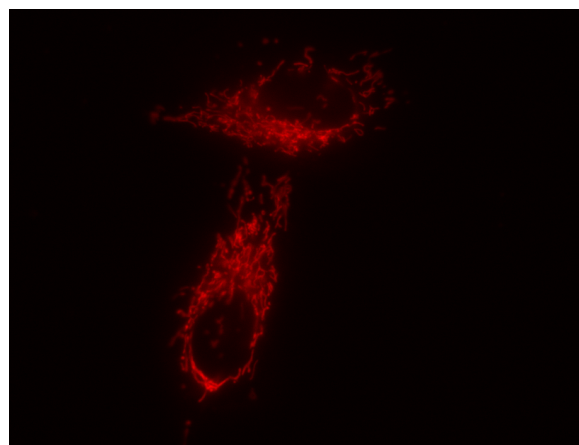
ATGCTGAGCCTGCGCCAGAGTATCCGCTTCTTCAAGCCGCCAC
CAGGACTCTGTGCAGTTCAGGGCGGCCGCGGGGACAATGGTGA
 GTGTGATCGCTAAACAAATGACCTACAAGGTTTATATGTCAGGC
 ACGGTCAATGGACTACTTTGAGGTCGAAGGCGATGAAAAGG
 AAAGCCTTACGAGGGAGAGCAGACAGTAAAGCTACTGTCCACCA
 AGGGTGGACCTCTGCCATTTGCTTGGGATATTTTATCACCACAG
 CTTCAGTACGGAAGCATACCATTACCAAGTACCCTGAAGACAT
 CCCTGATTATTTCAAGCAGTCATTCCCTGAGGGATATACATGGG
 AGAGGAGCATGAACTTTGAAGATGGTGCAGTGTGTACTGTCAGC
 AATGATTCCAGCATCCAAGGCAACTGTTTCATCTACAATGTCAA
 AATCTCTGGTGAGAACTTTCCTCCAATGGACCTGTTATGCAGA
 AGAAGACACAGGGCTGGGAACCCAGCACTGAGCGTCTCTTTGCA
 CGAGATGGAATGCTGATAGGAAACGATTATATGGCTCTGAAGTT
 GGAAGGAGGTGGTCACTATTTGTGTGAATTTAAATCTACTTACA
 AGGCAAAGAAGCCTGTGAGGATGCCAGGGGCCACGAGATTGAC
 CGCAAATGGATGTAACCAGTCACAACAGGGATTACACATCTGT
 TGAGCAGTGTGAAATAGCCATTGCAGGCCACTCTTTGCTCGGT

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

2) Amino acid sequence

MLSLRQSI RFFK PATRTL C SSRAAAGTMVSVIAKQMTYKVYMSG
 TVNGHYFEVEGDGKGPYEGETVKLTVTKGGPLPFAWDILSPQ
 LQYGSIPFTKYPEDIPDYFKQSFPEGYTWERSMNFEDGAVCTVS
 NDSSIQGNCFIYNVKISGENFPNGPVMQKKTQGWEPSTERLFA
 RDGMLIGNDYALKLEGGHYLCEFKSTYKAKKPVMPGRHEID
 RKLDVTSHNRDYSVEQCEIAIARHSLLG

(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).

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