

Fluorescent Protein Expression Plasmid

CoralHue[®]

Mitochondria-targeted mKeima-Red Expression Plasmid (pMT-mKeima-Red)

Code No.

AM-V0251

Quantity

20 µg

BACKGROUND: This plasmid is designed for expression of Mitochondria-targeted *CoralHue*[®] Monomeric Keima Red (MT-mKeima-Red) in mammalian cells. *CoralHue*[®] Keima-Red has been cloned from the stony coral, whose Japanese name is “Komon-Sango”. A monomeric vesion 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-mKeima-Red (Including Stop Codon): 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

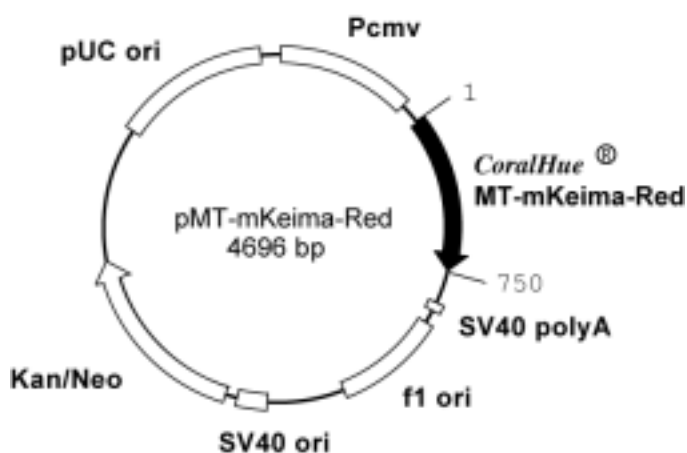
INTENDED USE: For research use only. Not for clinical or diagnostic use.

REFERENCE:

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

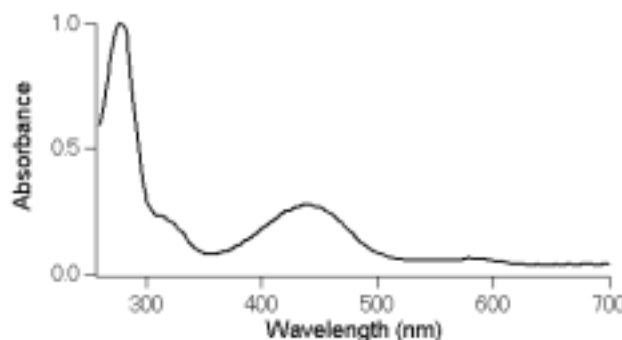
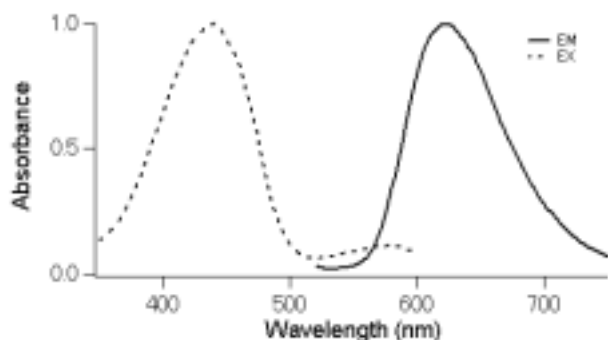
GenBank:

Accession Numbers: AB209967, AB209968, AB209969



CoralHue[®] MT-mKeima-Red: 249 amino acids

	Excit./Emiss.Maxima (nm)	Extinction Coefficient(M ¹ cm ⁻¹)	Fluorescence Quantum Yield	pH sensitivity
mKeima-Red	440/620	14,400 (440 nm)	0.24	pKa=6.5



CoralHue[®] MT-mKeima-Red DNA Sequence

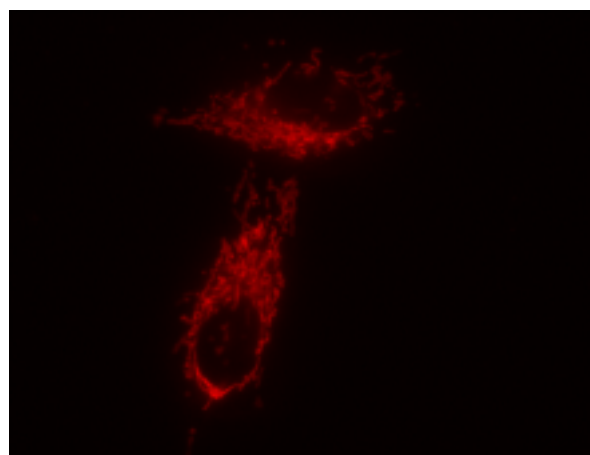
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CAGGACTCTGTGCAGTTCAGGGCGGCCGCGGGGACAATGGTGA
 GTGTGATCGCTAAACAAATGACCTACAAGGTTTATATGTCAGGC
 ACGGTCAATGGACACTACTTTGAGGTGCAAGGCGATGGAAAAGG
 AAAGCCTTACGAGGGAGAGCAGACAGTAAAGCTCACTGTCACCA
 AGGGTGGACCTCTGCCATTTGCTTGGGATATTTTATCACCACAG
 CTTCAGTACGGAAGCATACCATTACCAAGTACCCTGAAGACAT
 CCCTGATTATTTCAAGCAGTCATTCCCTGAGGGATATACATGGG
 AGAGGAGCATGAACTTTGAAGATGGTGCAGTGTGTACTGTCAGC
 AATGATTCCAGCATCCAAGGCAACTGTTTCATCTACAATGTCAA
 AATCTCTGGTGAGAACTTTCCTCCAATGGACCTGTTATGCAGA
 AGAAGACACAGGGCTGGGAACCCAGCACTGAGCGTCTCTTTGCA
 CGAGATGGAATGCTGATAGGAAACGATTATATGGCTCTGAAGTT
 GGAAGGAGGTGGTCACTATTTGTGTGAATTTAAATCTACTTACA
 AGGCAAAGAAGCCTGTGAGGATGCCAGGGCGCCACGAGATTGAC
 CGCAAACCTGGATGTAACCAGTCACAACAGGGATTACACATCTGT
 TGAGCAGTGTGAAATAGCCATTGCACGCCACTCTTTGCTCGGTT
 AA

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

CoralHue[®] MT-mKeima-Red Amino Acid Sequence

MLSLRQSIRFFKPATRTLCSSRAAAGTMVSVIAKQMTYKVYMSG
 TVNGHYFEVEGDGKGPYEGETVTKLTVTKGGPLPFAWDILSPQ
 LQYGSIPFTKYPEDIPDYFKQSFPEGYTWERSMNFEDGAVCTVS
 NDSSIQGNCFIYNVKISGENFPPNGPVMQKKTQGWEPSTERLFA
 RDGMLIGNDYMALKLEGGHYLCEFKSTYKAKKPVRRMPGRHEID
 RKLDVTSNDRDYSVEQCEIAIARHSLLG*

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



CoralHue[®] MT-mKeima-Red expression in HeLa cells

Fluorescent protein **CoralHue[®] MT-mKeima-Red** used in this product was co-developed with the Laboratory for Cell Function and Dynamics, the Advanced Technology Development Center, the Brain Science Institute, and the Institute of Physical and Chemical Research (RIKEN) (lab head Dr. Atsushi Miyawaki).

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PATENT PENDING
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