

Fluorescent Protein Expression Vector

*CoralHue*TM

humanized monomeric Keima-Red (phmKeima-Red-MCL)

Code No.
AM-V0099M

Quantity
20 µg

BACKGROUND: This plasmid contains the coding sequence of a monomeric version of the fluorescent protein “Keima-Red,” which was originally cloned from the stony coral whose Japanese name is “Komon-Sango”. *CoralHue*TM hmKeima-Red absorbs light maximally at 440 nm and emits red light at 620 nm. Thus *CoralHue*TM hmKeima-Red exhibits an extremely large Stokes shift (180 nm). Because of this unique property of *CoralHue*TM hmKeima-Red, it is useful for multicolor imaging and dual-color fluorescence cross-correlation spectroscopy with a single laser line. *CoralHue*TM hmKeima-Red can also be used to label proteins or subcellular structures. *CoralHue*TM hmKeima-Red sequence is codon-optimized for higher expression in mammalian cells. This plasmid has the flexible linker between fluorescence protein and multiple cloning site.

SOURCE: The *CoralHue*TM mKeima-Red gene was originally cloned from the stony coral (*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:

*CoralHue*TM hmKeima-Red coding sequence: bases 1 – 666
peptide linker: bases 667-738
CMV promoter: bases 4144-4716
SV40 polyA: bases 954-988
Kanamycin/Neomycin resistance gene: bases 2031-2822
pUC origin: bases 3410-4053
f1 origin: bases 1051-1506
SV40 origin: bases 1847-1982

INTENDED USE:

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

REFERENCE:

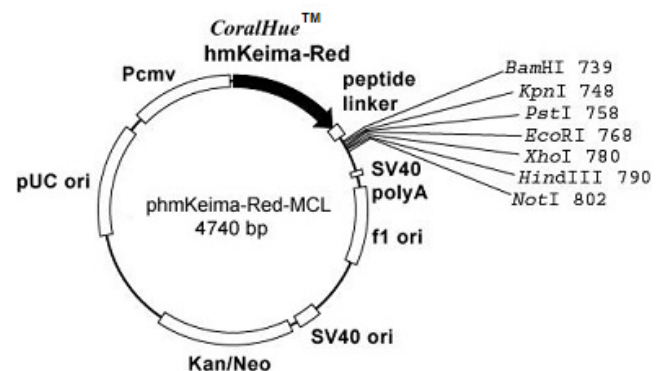
Kogure, T., *et al.*, *Nat. Biotechnol.* **24**, 577-581 (2006)

NOTICES:

- 1) Val is inserted to second amino acid of *CoralHue*TM hmKeima-Red to form kozak sequence. (The corresponding nucleotide sequence is GTG)
- 2) It is highly recommended to add stop codon at 3'-terminus of a cDNA when a cDNA is inserted using *NotI* site. Some cDNA frame might not work in this construct without addition of stop codon

RELATED PRODUCTS:

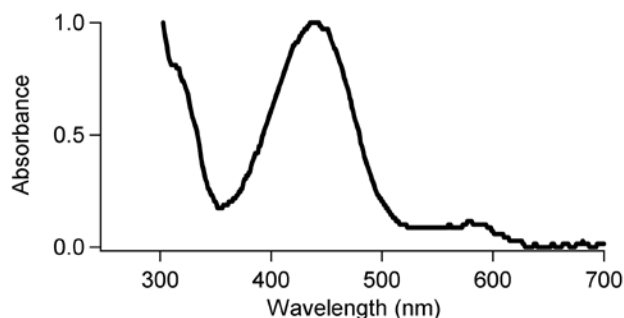
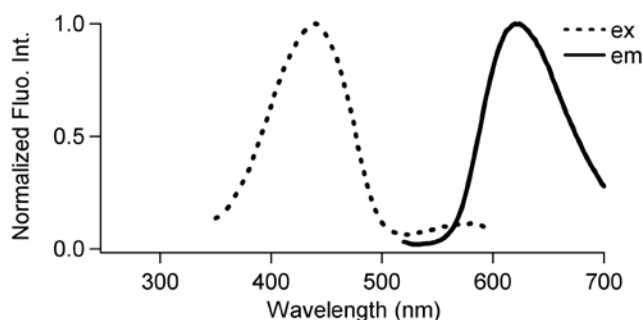
- AM-V0090M *CoralHue*TM humanized monomeric Keima-Red (phmKeima-Red-MNL)
AM-V0094M *CoralHue*TM humanized monomeric Keima-Red (phmKeima-Red-S1)



peptide linker 738 817
... acc caa gga gga tcc tca ggt acc gga act gca gca gag aat tcg gga aac tcg aga aca aag ctt gaa taa gcg gcc gcg act cta g
T Q G G S S G T G T A A E N S G N S R T K L E stop

CoralHue™ mKeima-Red: 222 amino acids

	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	pKa=6.5



CoralHue™ hmKeima-Red/linker

1) DNA sequence

ATGGTGAGCGTGATCGCCAAGCAGATGACCTACAAGGTGTACAT
GAGCGGCACCGTGAACGGCCACTACTTCGAGGTGGAGGGCGACG
GCAAGGGCAAGCCCTACGAGGGCGAGCAGACCGTGAAGCTGACC
GTGACCAAGGGTGGCCCCCTGCCCTTCGCCTGGGACATCCTGAG
CCCCAGCTCCAGTACGGCAGCATCCCCTTCACCAAGTACCCCG
AGGACATCCCGACTACTTCAAGCAGAGCTTCCCGAGGGCTAC
ACCTGGGAGCGCAGCATGAACTTCGAGGACGGGCGCGTGTGCAC
CGTGAGCAACGACAGCAGCATCCAGGGCAACTGCTTCATCTACA
ACGTGAAGATCAGCGGCGAGAACTTCCCCCAACGGCCCCGTG
ATGCAGAAGAAGACCCAGGGCTGGGAGCCCAGCACCGAGCGCCT
GTTCCGCCGCGACGGAATGCTGATCGGCAACGACTACATGGCCC
TGAAGCTGGAGGGCGGCGGCCACTACCTGTGCGAGTTCAAGAGC
ACCTACAAGGCCAAGAAGCCCGTGAGGATGCCGGCGCCACGA
GATCGACCGCAAGCTGGACGTGACCAGCCACAACCGGACTACA
CCAGCGTGGAGCAGTGCAGATCGCCATCGCCGCCACAGCCTG
CTGGGCACCGGTAATTCCGCTGACGGCGGCGGAGGATCGGGTGG
TAGTGGTGGTTCAGGAGGAGGATCGACCCAAGGA

2) Amino acid sequence

MVSVIAKQMTYKVYMSGTVNGHYFEVEGDGKPKPYEGEQTVKLT
VTKGGPLPFAWDILSPQLQYGSIPFTKYPEDIPDYFKQSFPEGY
TWERSMNFEDGAVCTVSNDSSIQGNCFIYNVKISGENFPPNGPV
MQKKTGWEPSTERLFARDGMLIGNDYMALKLEGGGHYLCEFKS
TYKAKKPVRRMPGRHEIDRKLDTVSHNRDYSVEQGEIAIARHSL
LGTGNSADGGGGSGGSGGGGGSTQG



CoralHue™ hmKeima-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).

Use of **CoralHue™ Keima-Red** requires a license from MBL Co., Ltd. MBL grants non-profit research organizations the right to use the product for non-commercial research purposes. For commercial entities a commercial license is required. For more information, please contact support@mbi.co.jp