

Fluorescent Protein Expression Vector

CoralHue[®]

humanized dimeric Keima-Red (phdKeima-Red-MNL)

Code No.
AM-V0100M

Quantity
20 µg

BACKGROUND: This plasmid contains the coding sequence of a dimeric version of the fluorescent protein “Keima-Red,” which was originally cloned from the stony coral whose Japanese name is “Komon-Sango”. *CoralHue*[®] humanized dimeric Keima-Red (hdKeima-Red) absorbs light maximally at 440 nm and emits red light at 616 nm. Thus *CoralHue*[®] hdKeima-Red exhibits an extremely large Stokes shift (176 nm). Because of this unique property of *CoralHue*[®] hdKeima-Red, it is useful for multicolor imaging and dual-color fluorescence cross-correlation spectroscopy with a single laser line. *CoralHue*[®] hdKeima-Red can also be used to label proteins or subcellular structures. *CoralHue*[®] hdKeima-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*[®] dKeima-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[®] hdKeima-Red coding sequence: bases 145-810
peptide linker: bases 73-144
CMV promoter: bases 4163-4735
SV40 polyA: bases 973-1007
Kanamycin/Neomycin resistance gene: bases 2050-2841
pUC origin: bases 3429-4072
f1 origin: bases 1070-1525
SV40 origin: bases 1866-2001

INTENDED USE:

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

REFERENCE:

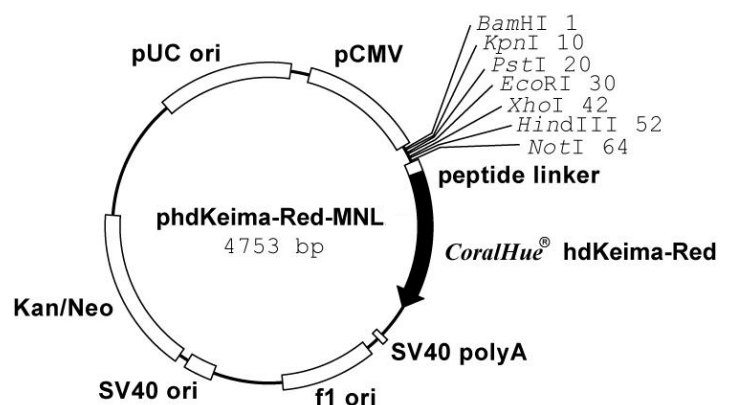
Kogure, T., *et al.*, *Nat. Biotechnol.* **24**, 577-581 (2006)

NOTICE:

Val is inserted to second amino acid of *CoralHue*[®] hdKeima-Red to form kozak sequence. (The corresponding nucleotide sequence is GTG.)

RELATED PRODUCTS:

- AM-V0104M *CoralHue*[®] humanized dimeric Keima-Red (phdKeima-Red-S1)
- AM-V0109M *CoralHue*[®] humanized dimeric Keima-Red (phdKeima-Red-MCL)



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1 | BamHI      KpnI      PstI      EcoRI      XhoI      HindIII      NotI      | 73 peptide linker
| gga tcc tca ggt acc gga act gca gca gag aat tcg gga aac tcg aga aca aag ctt gga tca gcg gcc gcc aat tcc gct . . .
| G S S G T G T A A E N S G N S R T K L G S A A A N S A
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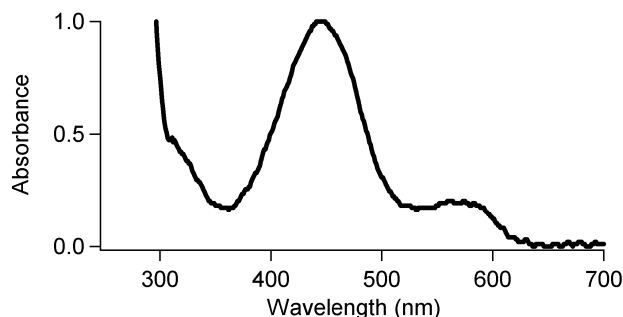
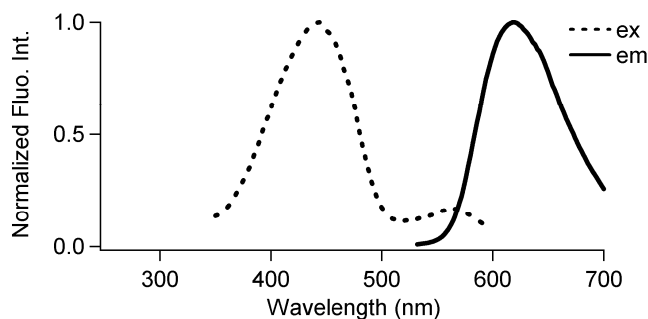
Amalgaam

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CoralHue[®] dKeima-Red: 222 amino acids

	Excit./Emiss.Maxima (nm)	Extinction Coefficient(M ⁻¹ cm ⁻¹)	Fluorescence Quantum Yield	pH sensitivity
dKeima-Red	440/616	24,600 (400 nm)	0.31	pK _a =6.5



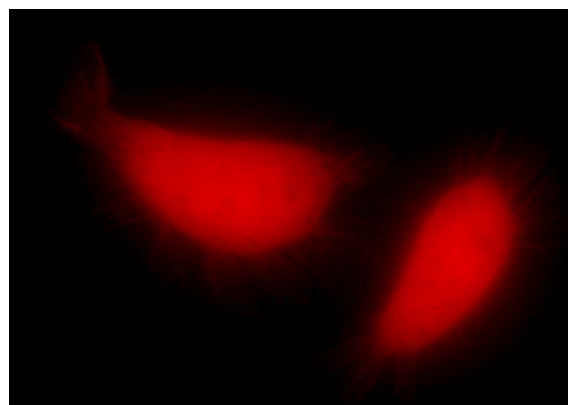
CoralHue[®] hdKeima-Red/linker

1) DNA sequence

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AATCCGCTGACGGCGGCGGAGGATCGGGTGGTAGTGGTGGTTC
AGGAGGAGGATCGACCCAAGGAACCGGTATGGTGAGCGTGATCG
CCAAGCAGATGACCTACAAGGTGTACATGTCCGGCACCGTGAAC
GGCCACTACTTCGAGGTGGAGGGCGACGGCAAGGGCAAGCCCTA
CGAGGGCGAGCAGACCGTGAAGCTGACCGTGACCAAGGGCGGCC
CCCTGCCCTTCGCCTGGGACATCCTGTCCCCCTGTTCCAGTAC
GGCAGCATCCCCTTCACCAAGTACCCGAGGACATCCCGACTA
CGTGAAGCAGAGCTTCCCGAGGGCTACACCTGGGAGAGGACCA
TGAACCTCGAGGACGGCGCCGTGTGCACCGTGAGCAACGACTCC
AGCATCCAGGGCAACTGCTTCATCTACAACGTGAAGATCAGCGG
CACCAACTTCCCCCAACGGCCCCGTGATGCAGAAGAAGACCC
AGGGCTGGGAGCCCAGCACCGAGAGGCTGTTGCCAGGGACGGA
ATGCTGATCGGCAACGACTACATGGCCCTGAAGCTGGAGGGCGG
CGGCCACTACCTGTGCGAGTTCAAGTCCACCTACAAGGCCAAGA
AGCCCGTGAGGATGCCCGGCTACCACTACATCGACAGGAAGCTG
GACGTGACCAGCCACAACAGGGACTACACCTCCGTGGAGCAGTG
CGAGATCGCCATCGCCAGGCACTCCCTGCTGGGC
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2) Amino acid sequence

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NSADGGGGSGGSGGGGGSTQGTGMVSVIAKQMTYKVYMSGTVN
GHYFEVEGDGKGKPYEGEQTVKLTVTKGGPLPFAWDILSPQLQY
GSIPFTKYPEDIPDYFKQSFPEGYTWERSMNFEDGAVCTVSNDS
SIQGNCFIYNVKISGENFPPNGPVMQKKTQGWEPSTERLFARDG
MLIGNDYMAKLEGGGHYLCEFKSTYKAKKPVMPGRHEIDRKL
DVTSHNRDYSVEQCEIAIARHSLLG
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CoralHue[®] hdKeima-Red expression in HeLa cells.

CoralHue[®] hdKeima-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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