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

Amalgaam MBL

Fluorescent Protein Cloning Vector

CoralHue®

humanaized monomeric Keima-Red (phmKeima-Red-S1)

Code No.	Quantity
AM-V0094M	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***® humanized monomeric Keima-Red absorbs light maximally at 440 nm and emits red light at 620 nm. Thus ***CoralHue***® hmKeima-Red exhibits an extremely large Stokes shift (180 nm). The red fluorescence is stable under usual aerobic conditions. The combination of far-red emission, a very large Stokes shift, stability at 37°C in eukaryotic cells, and being monomeric make ***CoralHue***® hmKeima-Red a superb reporter protein for labeling proteins or subcellular structures in multicolor fluorescence analyses. ***CoralHue***® hmKeima-Red sequence is codon-optimized for higher expression in mammalian cells.

SOURCE: The ***CoralHue***® 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

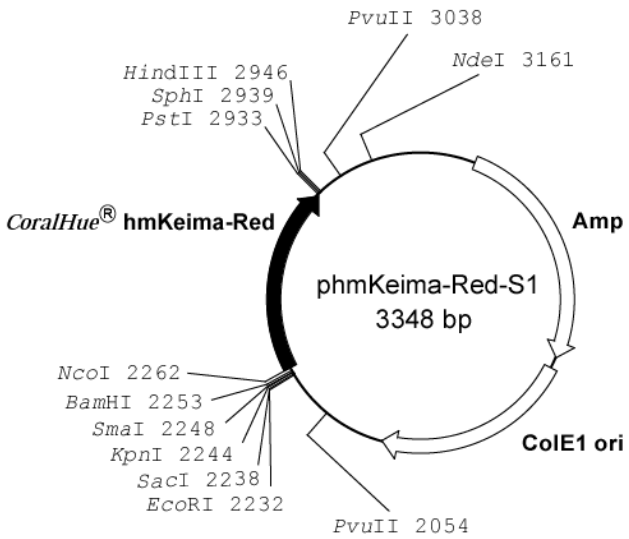
STORAGE: Store at -20°C.

SEQUENCE LANDMARKS:
CoralHue® hmKeima-Red coding sequence (including stop codon): bases 2264 – 2932
Ampicillin resistance gene: bases 200 - 1059
*Col*E1 origin: bases 1062 - 2002

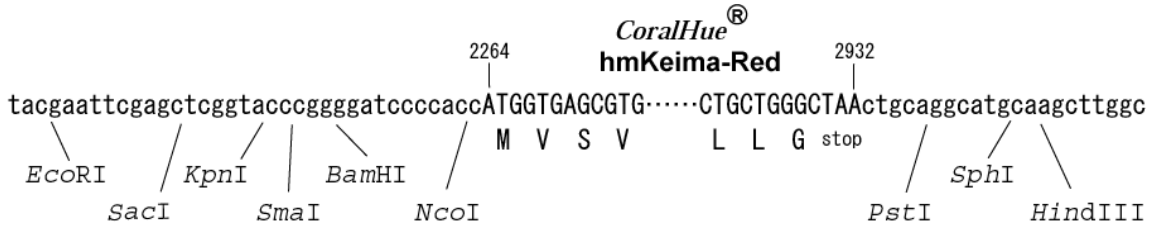
INTENDED USE:
For Research Use Only. Not for use in diagnostic procedures.

NOTICES:
1) phmKeima-Red-S1 is not an expression plasmid. When ***CoralHue***® hmKeima-Red is to be expressed in cells, the cDNA must be cloned into an appropriate expression vector.
2) The sequence around the initiation methionine (Met) codon has been modified to conform the Kozak consensus sequence. As a result, a Val codon (GTG) is inserted as the second amino acid of ***CoralHue***® hmKeima-Red.

RELATED PRODUCTS:
AM-V0090M ***CoralHue***® humanized monomeric Keima-Red (phmKeima-Red-MNL)
AM-V0099M ***CoralHue***® humanized monomeric Keima-Red (phmKeima-Red-MCL)



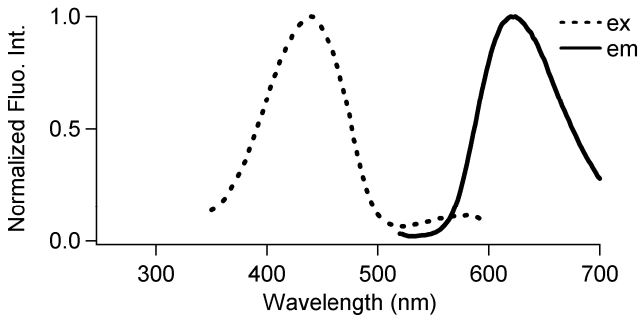
REFERENCE:
Kogure, T., *et al., Nat. Biotechnol.* **24**, 577-581 (2006)

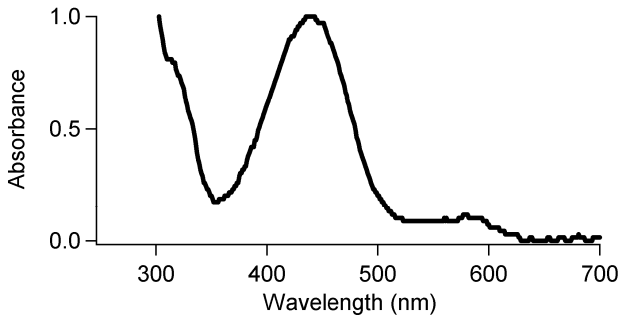


Amalgaam MBL MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
URL: http://ruo.mbl.co.jp Email:support@mbl.co.jp Phone: (052) 238-1904

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	p*K* a=6.5





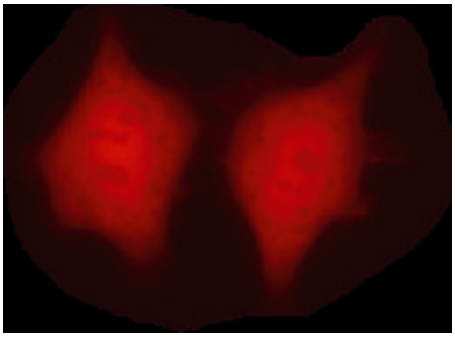
CoralHue® hmKeima-Red

1) DNA sequence

ATGGTGAGCGTGATCGCCAAGCAGATGACCTACAAGGTGTACAT
GAGCGGCACCGTGAACGGCCACTACTTCGAGGTGGAGGGCGACG
GCAAGGGCAAGCCCTACGAGGGCGAGCAGACCGTGAAGCTGACC
GTGACCAAGGGTGGCCCCCTGCCCTTCGCCTGGGACATCCTGAG
CCCCCAGCTCCAGTACGGCAGCATCCCCTTCACCAAGTACCCCG
AGGACATCCCCGACTACTTCAAGCAGAGCTTCCCCGAGGGCTAC
ACCTGGGAGCGCAGCATGAACTTCGAGGACGGCGCCGTGTGCAC
CGTGAGCAACGACAGCAGCATCCAGGGCAACTGCTTCATCTACA
ACGTGAAGATCAGCGGCGAGAACTTCCCCCCCAACGGCCCCGTG
ATGCAGAAGAAGACCCAGGGCTGGGAGCCCAGCACCGAGCGCCT
GTTCGCCCGCGACGGAATGCTGATCGGCAACGACTACATGGCCC
TGAAGCTGGAGGGCGGCGGCCACTACCTGTGCGAGTTCAAGAGC
ACCTACAAGGCCAAGAAGCCCGTGAGGATGCCCGGCCGCCACGA
GATCGACCGCAAGCTGGACGTGACCAGCCACAACCGCGACTACA
CCAGCGTGGAGCAGTGCGAGATCGCCATCGCCCGCCACAGCCTG
CTGGGC

2) Amino acid sequence

MVSVIAKQMTYKVYMSGTVNGHYFEVEGDGKGKPYEGEQTVK
LTVTKGGPLPFAWDILSPQLQYGSIPFTKYPEDIPDYFKQSF
PEGYTWERSMNFEDGAVCTVSNDSSIQGNCFIYNVKISGENF
PPNGPVMQKKTQGWEPSTERLFARDGMLIGNDYMALKLEGGG
HYLCEFKSTYKAKKPVRMPGRHEIDRKLDVTSHNRDYTSVEQ
CEIAIARHSLLG



***CoralHue*® hmKeima-Red expression in HeLa cells**

***CoralHue*® hmKeima-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*® hmKeima-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@mbl.co.jp

Patent No. JP5147915, US8420781 and EP2314682