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

Amalgaam MBL

Fluorescent Protein Expression Vector

***CoralHue*®**

humanized dimeric Keima570 (phdKeima570-MNL)

Code No.	Quantity
AM-V0120M	20 μg

BACKGROUND: This plasmid contains the coding sequence of a dimeric version of the fluorescent protein "Keima570," which was originally cloned from the stony coral whose Japanese name is " Komon-Sango." ***CoralHue***® dimeric Keima570 (dKeima570) absorbs light maximally at 440 nm and emits orange-red light at 570 nm. Thus ***CoralHue***® dKeima570 exhibits an extremely large Stokes shift (130 nm). Because of this unique property of ***CoralHue***® dKeima570, it is useful for multicolor imaging. The orange-red fluorescence is stable under usual aerobic conditions. ***CoralHue***® hdKeima570 sequence is codon-optimized for higher expression in mammalian cells. This plasmid has the flexible linker between fluorescent protein and multiple cloning site.

SOURCE: The ***CoralHue***® dKeima570 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® hdKeima570 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:
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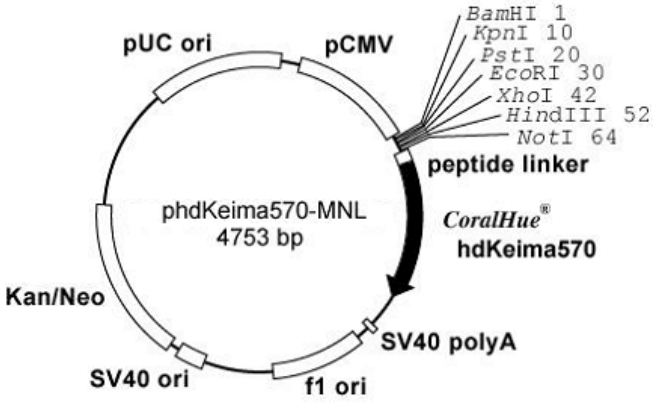
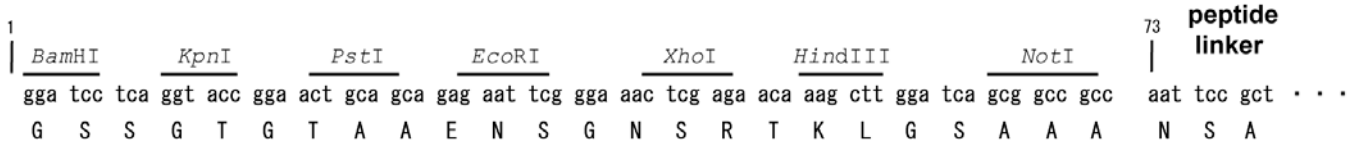
REFERENCE:
Kogure, T., *et al*., *Nat. Biotechnol.* **24**, 577-581 (2006)

NOTICE:
Val is inserted to second amino acid of ***CoralHue***® hdKeima570 to form kozak sequence. (The corresponding nucleotide sequence is GTG.)

RELATED PRODUCTS:
AM-V0121M ***CoralHue***® dimeric Keima570 (phdKeima570-S1)
AM-V0124M ***CoralHue***® humanized dimeric Keima570 (phdKeima570-S1)
AM-V0129M ***CoralHue***® humanized dimeric Keima570 (phdKeima570-MCL)
AM-V0324M ***CoralHue***® Nucleoplasm-targeted humanized dKeima570 (pNP-hdKeima570)





Amalgaam MBL MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
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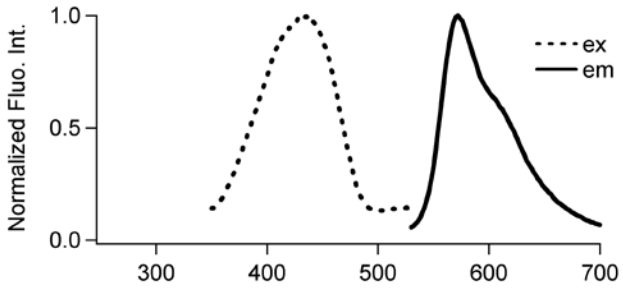
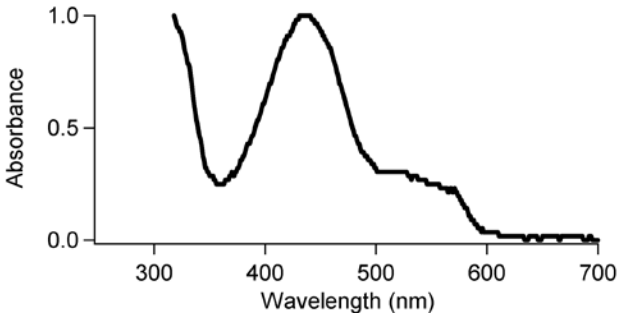
***CoralHue*® dKeima570:** 222 amino acids

	Excit./Emiss.Maxima (nm)	Extinction Coefficient($M^{-1}cm^{-1}$)	Fluorescence Quantum Yield	pH sensitivity
dKeima570	440/570	14,000 (440 nm)	0.15	p*K* a=6.5





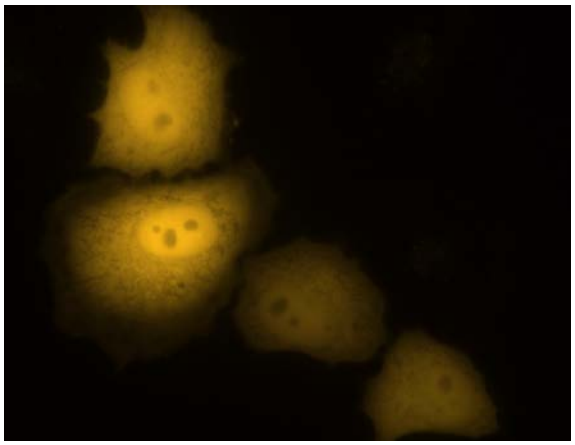
CoralHue® hdKeima570/linker

1) DNA sequence

AATTCCGCTGACGGCGGCGGAGGATCGGGTGGTAGTGGTGGTTC
AGGAGGAGGATCGACCCAAGGAACCGGTATGGTGAGCGTGATCG
CCAAGCAGATGACCTACAAGGTGTACATGTCCGGCACCGTGAAC
GGCCACTACTTCGAGGTGGAGGGCGACGGCAAGGGCAAGCCCTA
CGAGGGCGAGCAGACCGTGAAGCTGACCGTGACCAAGGGCGGCC
CCCTGCCCTTCGCCTGGGACATCCTGTCCCCCCTGATGTGCTAC
GGCAGCATCCCCTTCACCAAGTACCCCGAGGACATCCCCGACTA
CGTGAAGCAGAGCTTCCCCGAGGGCTACACCTGGGAGAGGACCA
TGAACTTCGAGGACGGCGCCGTGTGCACCGTGAGCAACGACTCC
AGCATCCAGGGCAACTGCTTCATCTACAACGTGAAGATCAGCGG
CACCAACTTCCCCCCCAACGGCCCCGTGATGCAGAAGAAGACCC
AGGGCTGGGAGCCCAGCACCGAGAGGCTGTTCGCCAGGGACGGA
ATGCTGATCGGCAACGACTACATGGCCCTGAAGCTGGAGGGCGG
CGGCCACTACCTGTGCGAGTTCAAGTCCACCTACAAGGCCAAGA
AGCCCGTGAGGATGCCCGGCTACCACTACATCGACAGGAAGCTG
GACGTGACCAGCCACAACAGGGACTACACCTCCGTGGAGCAGTG
CGAGATCGCCATCGCCAGGCACTCCCTGCTGGGC

2) Amino acid sequence

NSADGGGGSGGGSGGGGSTQGTGMVSVIAKQMTYKVYMSGT
VNGHYFEVEGDGKGKPYEGEQTVKLTVTKGGPLPFAWDILSP
LMCYGSIPFTKYPEDIPDYVKQSFPEGYTWERTMNFEDGAVC
TVSNDSSIQGNCFIYNVKISGTNFPPNGPVMQKKTQGWEPST
ERLFARDGMLIGNDYMALKLEGGGHYLCEFKSTYKAKKPVRM
PGYHYIDRKLDVTSHNRDYTSVEQCEIAIARHSLLG



***CoralHue*® hdKeima570 expression in HeLa cells.**

***CoralHue*® hdKeima570** 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).

Patent Nos. JP5147915, US8420781 and EP2314682