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

Amalgaam MBL

Fluorescent Protein Expression Plasmid

***CoralHue*®**

Nucleoplasm-targeted humanized dimeric Keima570

Code No.	Quantity
AM-V0324M	20 µg

BACKGROUND: This plasmid is designed for expression of Nucleoplasm-targeted ***CoralHue***® humanized dimeric Keima570 (NP-hdKeima570) in mammalian cells. ***CoralHue***® humanized dimeric Keima570 (hdKeima570), which was originally cloned from the stony coral whose Japanese name is "Komon-Sango." ***CoralHue***® hdKeima570 absorbs light maximally at 440 nm and emits orange-red light at 570 nm. Thus ***CoralHue***® hdKeima570 exhibits an extremely large Stokes shift (130 nm). Targeting of hdKeima570 to the Nucleoplasm is achieved with the signal peptide fused to the C-terminus of hdKeima570.

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 (bases):
CoralHue® NP-hdKeima570 (Including Stop Codon): bases 1-753
CMV promoter: bases 4096-4668
SV40 polyA: bases 906-940
Kanamycin/Neomycin resistance gene: bases 1983-2774
pUC origin: bases 3363-4005
f1 origin: bases 1003-1458
SV40 origin: bases 1799-1934

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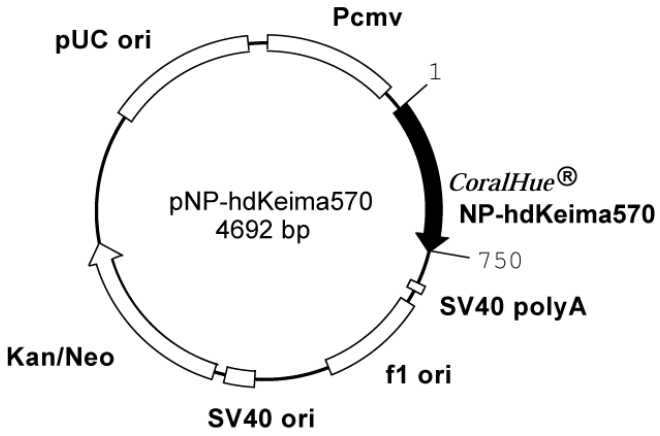
REFERENCE:
Kogure, T., *et al.*, *Nat. Biotechnol.* **24**, 577-581 (2006)

RELATED PRODUCTS:
AM-V0121M ***CoralHue***® dimeric Keima570 (phdKeima570-S1)
AM-V0120M ***CoralHue***® humanized dimeric Keima570 (phdKeima570-MNL)
AM-V0124M ***CoralHue***® humanized dimeric Keima570 (phdKeima570-S1)
AM-V0129M ***CoralHue***® humanized dimeric Keima570 (phdKeima570-MCL)



Amalgaam MBL MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
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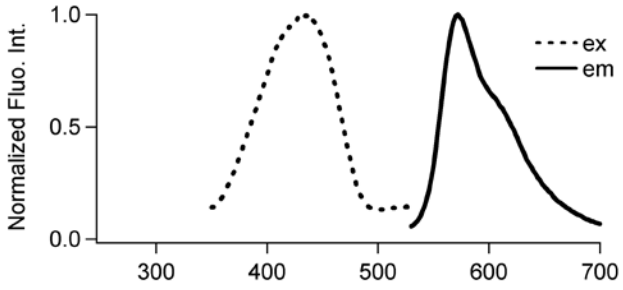
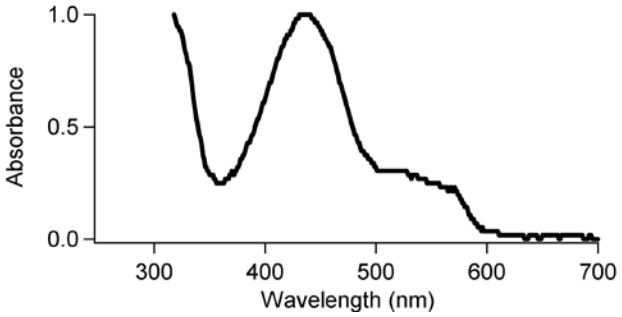
***CoralHue*® dKeima570:** 222 amino acids (without NP signal sequence)

	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*® NP-hdKeima-Red**

1) DNA sequence

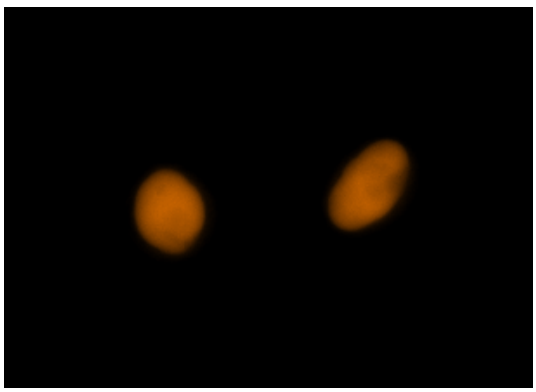
ATGGTGAGCGTGATCGCCAAGCAGATGACCTACAAGGTGTACAT
GTCCGGCACCGTGAACGGCCACTACTTCGAGGTGGAGGGCGACG
GCAAGGGCAAGCCCTACGAGGGCGAGCAGACCGTGAAGCTGACC
GTGACCAAGGGCGGCCCCCTGCCCTTCGCCTGGGACATCCTGTC
CCCCCTGATGTGCTACGGCAGCATCCCCTTCACCAAGTACCCCG
AGGACATCCCCGACTACGTGAAGCAGAGCTTCCCCGAGGGCTAC
ACCTGGGAGAGGACCATGAACTTCGAGGACGGCGCCGTGTGCAC
CGTGAGCAACGACTCCAGCATCCAGGGCAACTGCTTCATCTACA
ACGTGAAGATCAGCGGCACCAACTTCCCCCCCAACGGCCCCGTG
ATGCAGAAGAAGACCCAGGGCTGGGAGCCCAGCACCGAGAGGCT
GTTCGCCAGGGACGGAATGCTGATCGGCAACGACTACATGGCCC
TGAAGCTGGAGGGCGGCGGCCACTACCTGTGCGAGTTCAAGTCC
ACCTACAAGGCCAAGAAGCCCGTGAGGATGCCCGGCTACCACTA
CATCGACAGGAAGCTGGACGTGACCAGCCACAACAGGGACTACA
CCTCCGTGGAGCAGTGCGAGATCGCCATCGCCAGGCACTCCCTG
CTGGGCGGCAGCAGCGGCGGATCCGGTGATGAAGTCGAAGGAGT
GGAAGAAGTAGCTAAGAAGAAGAGTAAAAAGGAAAAGGATAAAA
AG

(Underlined sequences in red are from poly (ADP-ribose) polymerase.)

2) Amino acid sequence

MVSVIAKQMTYKVYMSGTVNGHYFEVEGDGKGKPYEGEQTVKLT
VTKGGPLPFAWDILSPLMCYGSIPFTKYPEDIPDYVKQSFPEGY
TWERTMNFEDGAVCTVSNDSSIQGNCFIYNVKISGTNFPPNGPV
MQKKTQGWEPSTERLFARDGMLIGNDYMALKLEGGGHYLCEFKS
TYKAKKPVRMPGYHYIDRKLDVTSHNRDYTSVEQCEIAIARHSL
LGGSSGGSGDEVEGVEEVAKKKSKKEKDKK

(Underlined sequences in red are from poly (ADP-ribose) polymerase.)



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

***CoralHue*® NP-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