

Fluorescent Protein Cloning Vector

CoralHue[®]

humanized monomeric Umikinoko-Green 1 (phmUkG1-S1)

Code No.
AM-V0164M

Quantity
20 µg

BACKGROUND The plasmid DNA encodes a monomeric version of the fluorescent protein *CoralHue*[®] Umikinoko-Green 1 (UkG1). *CoralHue*[®] UkG1 has been cloned from the soft coral, whose Japanese name is "Umikinoko". *CoralHue*[®] UkG1 has been engineered to form a monomer, *CoralHue*[®] monomeric Umikinoko-Green 1 (mUkG1) that absorbs light maximally at 483 nm and emits green light at 499 nm. *CoralHue*[®] mUkG1 exhibit the brilliant fluorescence and extremely high pH stability. mUkG1 can be used to label proteins or subcellular structures or for FRET analysis. *CoralHue*[®] hmUkG1 sequence is codon-optimized for higher expression in mammalian cells.

SOURCE: The *CoralHue*[®] UkG1 gene was originally cloned from the soft coral (*Sarcophyton* sp.).

FORMULATION: Dry form. Reconstitute with distilled water or TE before use.

PURITY: A260/A280 > 1.5

STORAGE: Stored at -20°C.

SEQUENCE LANDMARKS:

CoralHue[®] hmUkG1 gene (including stop codon):
bases 2264-2947
Ampicillin resistance gene: bases 200-1059
ColE1 origin: bases 1062-2002

INTENDED USE:

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

REFERENCE:

Tsutsui, H., et al., *Nat. Methods*. **5**, 683-685 (2008)

Gen Bank:

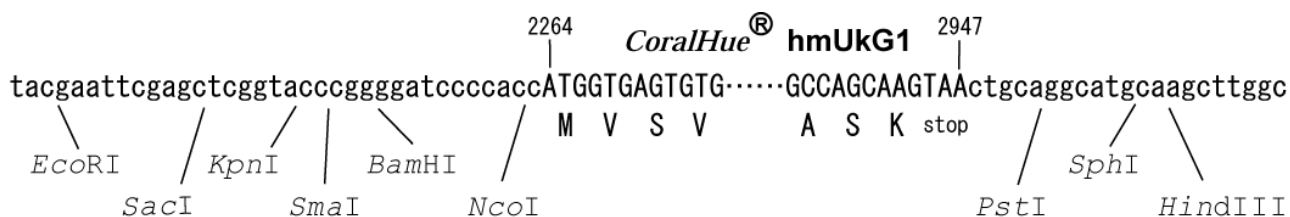
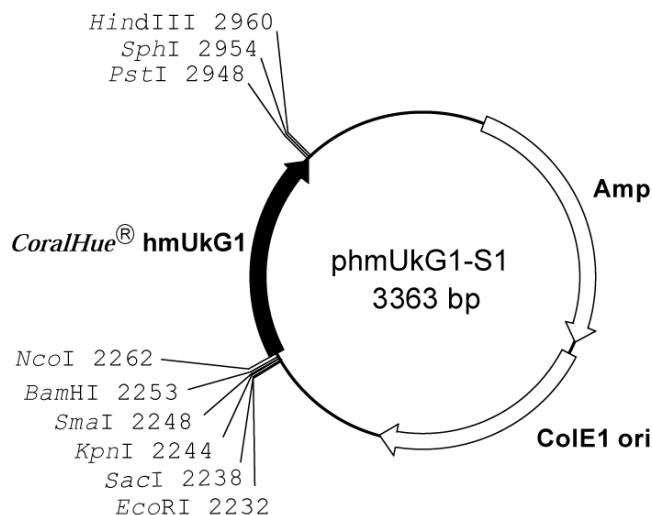
Accession Numbers: AB425088

NOTICES:

- 1) phmUkG1-S1 is not expression vector. When *CoralHue*[®] hmUkG1 is expressed in any cells, the cDNA must be transferred to appropriate expression vectors by your own.
- 2) Val is inserted to second amino acid of *CoralHue*[®] hmUkG1 to form kozak sequence. (The corresponding nucleotide sequence is GTG.)

RELATED PRODUCTS:

- AM-V0161M *CoralHue*[®] monomeric Umikinoko-Green 1 (phmUkG1-S1)
AM-V0165M *CoralHue*[®] humanized monomeric Umikinoko-Green 1 (phmUkG1-MC1)
AM-V0166M *CoralHue*[®] humanized monomeric Umikinoko-Green 1 (phmUkG1-MN1)



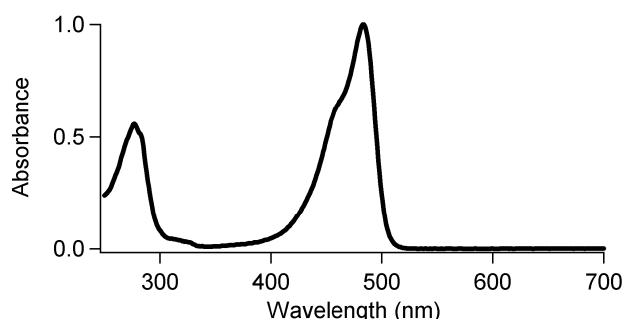
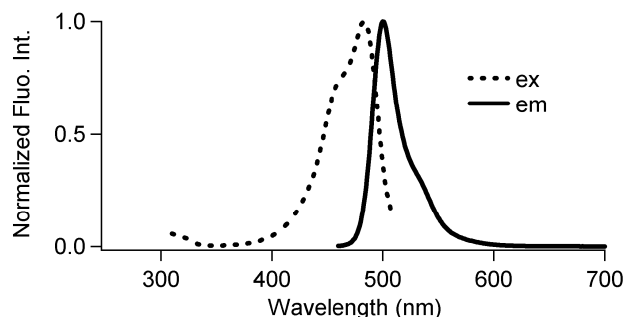
Amalgaam

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CoralHue[®] mUkG1: 227 amino acids

	Excit./Emiss.Maxima (nm)	Extinction Coefficient(M ⁻¹ cm ⁻¹)	Fluorescence Quantum Yield	pH sensitivity
mUkG1	483/499	60,000 (483 nm)	0.72	pK _a =5.2



CoralHue[®] hmUkG1

1) DNA sequence

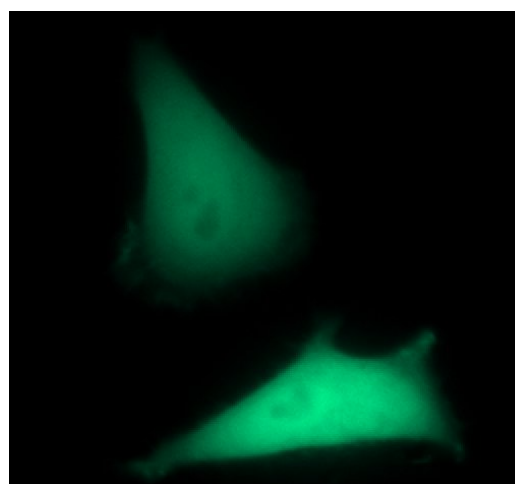
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GTGAAGGAGGGCGCCCCCTGCCCTTCAGCTACGACATCCTGAC
CAACGCCTTCCAGTACGGCAACCGCGCCTTCACCAAGTACCCCG
CCGACATCCCGACTACTTCAAGCAGACCTTCCCGGAGGGCTAC
AGCTGGGAGCGCACCATGAGCTACGAGGACAACGCCATCTGCAA
CGTGCGCAGCGAGATCAGCATGGAGGGCGACTGCTTCATCTACA
AGATCCGCTTCGACGGCAAGAACTTCCCCCAACGGCCCCGTG
ATGCAGAAGAAGACCCTGAAGTGGGAGCCCAGCACCGAGATGAT
GTACGTGCGGACGGCTTCCTGATGGGCGACGTGAACATGGCCC
TGCTGCTGGAGGGCGGGCCACCACCGCTGCGACTTCAAGACC
AGCTACAAGGCCAAGAAGGTGGTGCAGCTGCCCGACGCCACAA
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2) Amino acid sequence

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MVSVIKEEMKIKLHMEGNVNGHAFVIEGDGKGPYDGTQTLNLT
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SWERTMSYEDNAICNVRSEISMEGDCFYKIRFDGKNFPPNGPV
MQKTLKWEPESTEMMYVRDGFMLMGDVNMALLLEGGGHRCDFKT
SYKAKKVVQLPDAHKIDHRIEILSHDRDYSKVKLYENAVARNSL
LPSQASK
    
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CoralHue[®] hmUkG1 expression in HeLa cells.

CoralHue[®] hmUkG1 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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