

Fluorescent Protein Expression Vector

CoralHue[®]

humanized monomeric Midoriishi-Cyan 1 (phmMiCy1-MC1)

Code No.
AM-V0115M

Quantity
20 µg

BACKGROUND: The plasmid DNA encodes a fluorescent protein, **CoralHue[®]** monomeric Midoriishi-Cyan 1 (mMiCy1), which was originally cloned from the stony coral "Midori-ishi". It absorbs light maximally at 470 nm and emits cyan light at 496 nm. Wild-type **CoralHue[®]** MiCy1 rapidly matures to form a fluorescent dimeric complex. **CoralHue[®]** mMiCy1 is a monomeric vesion of MiCy1, and can be used to label proteins or subcellular structures. **CoralHue[®]** hmMiCy1 sequence is codon-optimized for higher expression in mammalian cells. This expression plasmid is designed for insertion of a target gene downstream of **CoralHue[®]** hmMiCy1 sequence.

SOURCE: The **CoralHue[®]** MiCy1 gene was cloned from stony coral (*Acropora* 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[®] hmMiCy1 gene: bases 1-696
CMV promoter: bases 4105-4677
SV40 polyA: bases 915-949
Kanamycin/Neomycin resistance gene: bases 1992-2783
pUC origin: bases 3371-4014
f1 origin: bases 1012-1467
SV40 origin: bases 1808-1946

INTENDED USE:

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

REFERENCES:

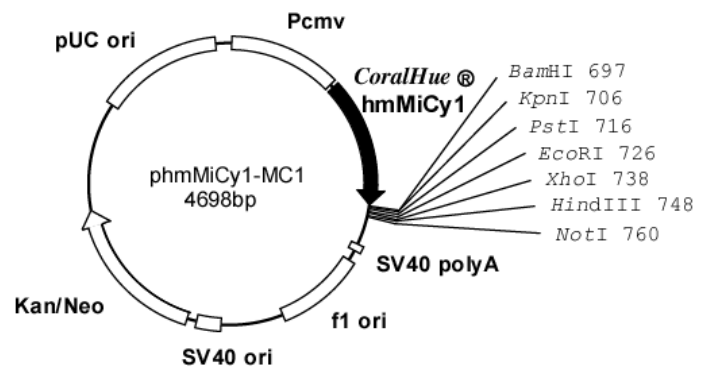
- 1) Kogure, T., *et al.*, *Nat. Biotechnol.* **24**, 577-581 (2006)
- 2) Karasawa, S., *et al.*, *Biochem. J.* **381**, 307-312 (2004)

NOTICES:

- 1) Val is inserted to second amino acid of **CoralHue[®]** hmMiCy1 to form kozak sequence. (The corresponding nucleotide sequence is GTG)
- 2) It is highly recommended to add stop codon at 3' -terminus of a cDNA when a cDNA is inserted using NotI site. Some cDNA frame might not work in this construct without addition of stop codon.

RELATED PRODUCTS:

- AM-V0116M **CoralHue[®]** humanized monomeric Midoriishi-Cyan 1 (phmMiCy1-MN1)
AM-V0110M **CoralHue[®]** humanized monomeric Midoriishi-Cyan 1 (phmMiCy1-MNL)
AM-V0119M **CoralHue[®]** humanized monomeric Midoriishi-Cyan 1 (phmMiCy1-MCL)



CoralHue[®] hmMiCy1 896 775
... AAGGTGAAG gga tcc tca ggt acc gga act gca gca gag aat tog gga aac tog aga aca aag ctt gaa taa gcg gcc ggc act cta g
K V K G S S G T G T A A E N S G N S R T K L E stop

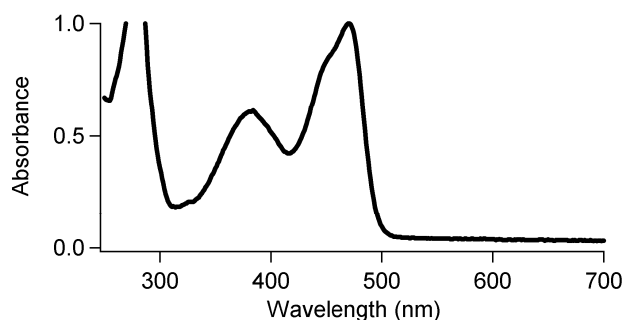
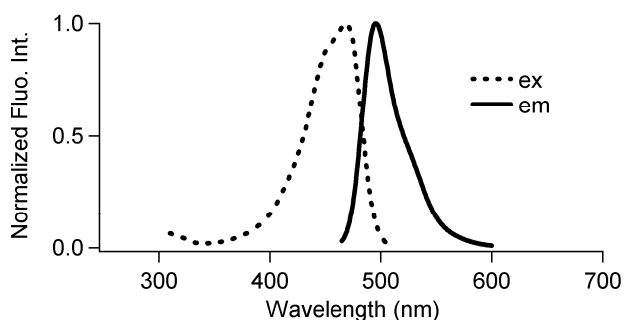
Amalgaam

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CoralHue[®] mMiCy1: 232amino acids

	Excit./Emiss.Maxima (nm)	Extinction Coefficient($M^{-1}cm^{-1}$)	Fluorescence Quantum Yield	pH sensitivity
mMiCy1	470/496	22,150 (470 nm)	0.70	pK _a =7.0



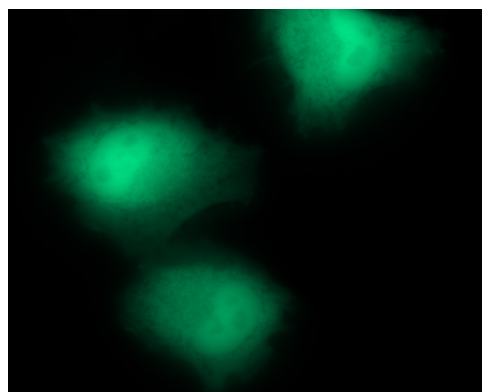
CoralHue[®] hmMiCy1

1) DNA sequence

ATGGTGTCTACTCCAAGCAGGGCATCGCCCAGGAGATGCGCAC
 CAAGTACCGCATGGAGGGCAGCGTGAACGGCCACGAGTTCACCA
 TCGAGGGGTTGGGCACCGGCAACCCCTACGAGGGCAAGCAGACC
 TCCGAGCTGGTGATCATCAAGCCCAAGGGCAAGCCCTGCCCTT
 CTCCTTCGACATCCTGTCCACCGTGTTCAGTACGGCAACAGGT
 GCTTCACCAAGTACCCCGGGACATGCCCGACTACTTCAAGCAG
 GCCTTCCCGACGGCATGTCCTACGAGAGGTCTTCTGTTCGA
 GGACGGGGCGTGGCCACCGCCAGCTGGAGCATCCGCCTGGAGG
 GCAACTGTTTCATCCACAACCTCCATCTACCAGGGACCAACTTC
 CCCGCCGACGGCCCCGTGATGAAGAAGCAGACCATCGGCTGGGA
 CAAGTCTCCGAGAAGATGAGCGTGGCCAAGGAGGTGCTGAGGG
 GCGACGTGACCCAGTTCCTGCTGCTGGAGGGGGGGCTACCAG
 AGGTGCCAGCTGCACTCCACCTACAAGACCGAGAAGCCCGTGGC
 CATGCCCCCAGCCACGTGGTGGAGCACCAGATCGTGAGGACCG
 ACCTGGGCCAGACCGCCAAGGGCTTCAAGGTGAAGCTGGAGGAG
 CACGCCGAGGCCACGTGAACCCCTGAAGGTGAAG

2) Amino acid sequence

MVSYSKGQIAQEMRTKYRMEGSVNGHEFTIEGVGTGNPYEGKQT
 SELVIKPKGKPLPFSFDILSTVFQYGNRCFTKYPADMPDYFKQ
 AFDPGMSYERSFLFEDGGVATASWSIRLEGNCFIHNSIYHGTNF
 PADGPVMKKQTI GWDKSSEKMSVAKEVLRGDVTQFLLLEGGYQ
 RCQLHSTYKTEKPVAMPPSHVVEHQIVRTDLGQTAKGFKVLEE
 HAEAHVNPLKVK



CoralHue[®] hmMiCy1 expression in HeLa cells.

CoralHue[®] hmMiCy1 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[®] hmMiCy1** 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@mbi.co.jp

Patent No. JP4794887