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

Amalgaam MBL

Fluorescent Protein Expression vector

CoralHue®

humanized monomeric Azami-Green 1 (phmAG1-MNL)

Code No.	Quantity
AM-V0030M	20 μg

BACKGROUND: The plasmid DNA encodes a monomeric version of the fluorescent protein ***CoralHue***® Azami-Green (AG). ***CoralHue***® AG has been cloned from the stony coral, whose Japanese name is "Azami-Sango". It absorbs light maximally at 492 nm and emits green light at 505 nm. Wild-type ***CoralHue***® AG rapidly matures to form a tetrameric complex. ***CoralHue***® AG has been carefully engineered to form a monomer, ***CoralHue***® monomeric Azami-Green 1 (mAG1) that maintains the brilliance and pH stability of the parent protein. ***CoralHue***® mAG1 can be used to label proteins or subcellular structures. ***CoralHue***® hmAG1 sequence is codon-optimized for higher expression in mammalian cells. This plasmid has the flexible linker between fluorescence protein and multi cloning site.

SOURCE: The ***CoralHue***® AG gene was cloned from stony coral (*Galaxea fascicularis*).

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

PURITY: A260/A280 > 1.5

STORAGE: Stored at -20°C

SEQUENCE LANDMARKS:
CoralHue® hmAG1 gene: bases 145-822
peptide linker: bases 73-144
CMV promoter: bases 4175-4747
SV40 polyA: bases 985-1019
Kanamycin/Neomycin resistance gene: bases 2062-2853
pUC origin: bases 3441-4084
f1 origin: bases 1082-1537
SV40 origin: bases 1878-2013

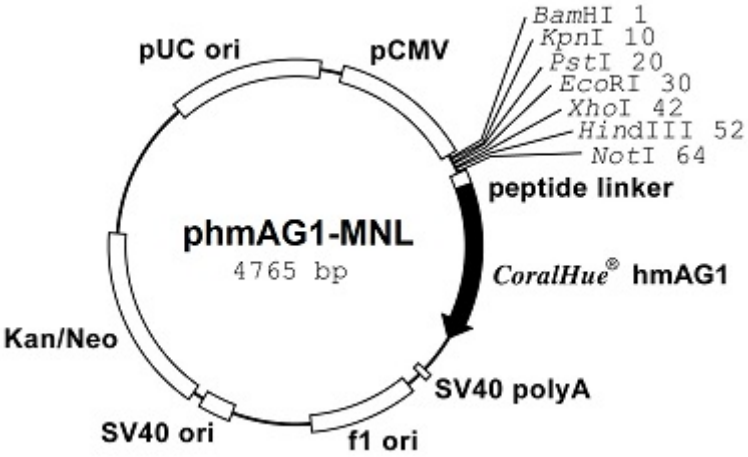
INTENDED USE:
For Research Use Only. Not for use in diagnostic procedures.

REFERENCE:
Karasawa, S., *et al.*, *J. Biol. Chem.* **278**, 34167-71 (2003)

GenBank:
Accession Numbers: AB107915, AB108447

NOTICE:
Val is inserted to second amino acid of ***CoralHue***® hmAG1 to form kozak sequence. (The corresponding nucleotide sequence is GTG.)

RELATED PRODUCTS:
AM-V0034M ***CoralHue***® humanized monomeric Azami-Green 1 (phmAG1-S1)
AM-V0035M ***CoralHue***® humanized monomeric Azami-Green 1 (phmAG1-MC1)
AM-V0036M ***CoralHue***® humanized monomeric Azami-Green 1 (phmAG1-MN1)
AM-V0039M ***CoralHue***® humanized monomeric Azami-Green 1 (phmAG1-MCL)

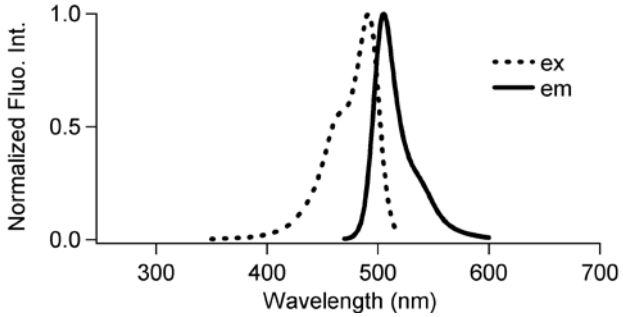


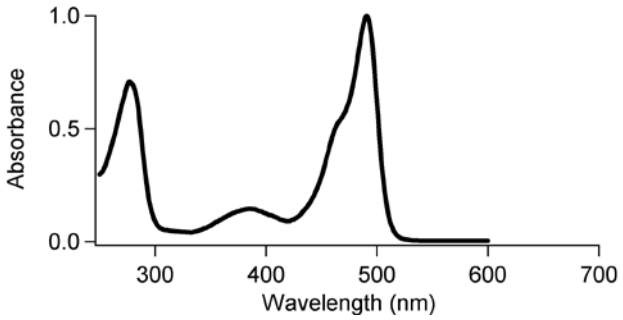

```
1                                                                                                                73   peptide
|  BamHI      KpnI        PstI        EcoRI          XhoI        HindIII          NotI                          |   linker
gga tcc tca ggt acc gga act gca gca gag aat tcg gga aac tcg aga aca aag ctt gga tca gcg gcc gcc   aat tcc gct · · ·
 G   S   S   G   T   G   T   A   A   E   N   S   G   N   S   R   T   K   L   G   S   A   A   A     N   S   A
```

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

***CoralHue*® mAG1:** 226 amino acids

	Excit./Emiss.Maxima (nm)	Extinction Coefficient($M^{-1}cm^{-1}$)	Fluorescence Quantum Yield	pH sensitivity
mAG1	492/505	55,500 (492 nm)	0.74	p*K* a=5.8





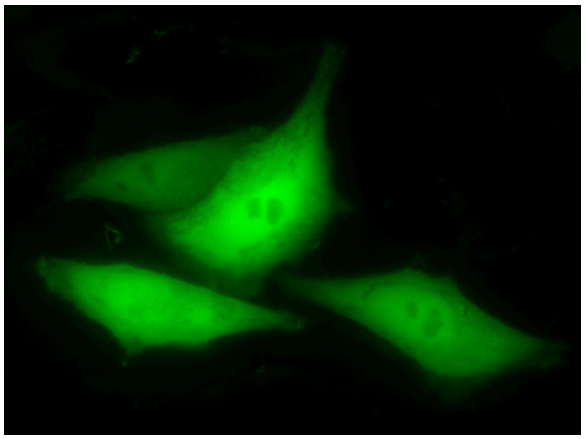
CoralHue® hmAG1/linker

1) DNA sequence

AATTCCGCTGACGGCGGCGGAGGATCGGGTGGTAGTGGTGGTTC
AGGAGGAGGATCGACCCAAGGAACCGGTATGGTGAGCGTGATCA
AGCCCGAGATGAAGATCAAGCTGTGCATGAGGGGCACCGTGAAC
GGCCACAACTTCGTGATCGAGGGCGAGGGCAAGGGCAACCCCTA
CGAGGGCACCCAGATCCTGGACCTGAACGTGACCGAGGGCGCCC
CCCTGCCCTTCGCCTACGACATCCTGACCACCGTGTTCCAGTAC
GGCAACAGGGCCTTCACCAAGTACCCCGCCGACATCCAGGACTA
CTTCAAGCAGACCTTCCCCGAGGGCTACCACTGGGAGAGGAGCA
TGACCTACGAGGACCAGGGCATCTGCACCGCCACCAGCAACATC
AGCATGAGGGGCGACTGCTTCTTCTACGACATCAGGTTCGACGG
CACCAACTTCCCCCCCAACGGCCCCGTGATGCAGAAGAAGACCC
TGAAGTGGGAGCCCAGCACCGAGAAGATGTACGTGGAGGACGGC
GTGCTGAAGGGCGACGTGAACATGAGGCTGCTGCTGGAGGGCGG
CGGCCACTACAGGTGCGACTTCAAGACCACCTACAAGGCCAAGA
AGGAGGTGAGGCTGCCCGACGCCCACAAGATCGACCACAGGATC
GAGATCCTGAAGCACGACAAGGACTACAACAAGGTGAAGCTGTA
CGAGAACGCCGTGGCCAGGTACTCCATGCTGCCCAGCCAGGCCA
AG

2) Amino acid sequence

NSADGGGGSGGSGGSGGGSTQGTGMVSVIKPEMKIKLCMRGTVNG
HNFVIEGEGKGNPYEGTQILDLNVTEGAPLPFAYDILTTVFQYG
NRAFTKYPADIQDYFKQTFPEGYHWERSMTYEDQGICTATSNIS
MRGDCFFYDIRFDGTNFPPNGPVMQKKTLKWEPSTEKMYVEDGV
LKGDVNMRLLLEGGGHYRCDFKTTYKAKKEVRLPDAHKIDHRIE
ILKHDKDYNKVKLYENAVARYSMLPSQAK



***CoralHue*® hmAG1 expression in HeLa cells.**

***CoralHue*® mAG1** 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*® mAG1** 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 Nos. JP4214209, US7247449 and EP1452591.