

## Fluorescent Protein Expression Plasmid

*CoralHue*<sup>®</sup>

### Mitochondria-targeted monomeric Azami-Green 1 (pMT-mAG1)

Code No.  
AM-V0201M

Quantity  
20 µg

**BACKGROUND:** This plasmid is designed for expression of Mitochondria-targeted *CoralHue*<sup>®</sup> monomeric Azami Green 1 (MT-mAG1) in mammalian cells. *CoralHue*<sup>®</sup> Azami Green (AG), which was originally cloned from the stony coral whose Japanese name is “Azami-Sango”, absorbs light maximally at 492 nm and emits green light at 505 nm. Wild-type *CoralHue*<sup>®</sup> AG rapidly matures to form a tetrameric complex. *CoralHue*<sup>®</sup> AG has been carefully engineered to form a monomer, *CoralHue*<sup>®</sup> monomeric Azami Green 1 (mAG1) that maintains the brightness and pH stability of the parent protein. Targeting of mAG1 to the mitochondria is achieved with the signal peptide fused to the N-terminus of mAG1.

**SOURCE:** The *CoralHue*<sup>®</sup> AG gene was cloned from the stony coral “Azami-Sango (*Galaxea fascicularis*).”

**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*<sup>®</sup> MT-mAG1 (Including Stop Codon):

bases 1-762

CMV promoter: bases 4118-4690

SV40 polyA: bases 928-962

Kanamycin/Neomycin resistance gene: bases 2005-2796

pUC origin: bases 3384-4027

f1 origin: bases 1025-1480

SV40 origin: bases 1821-1956

#### INTENDED USE:

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

#### REFERENCE:

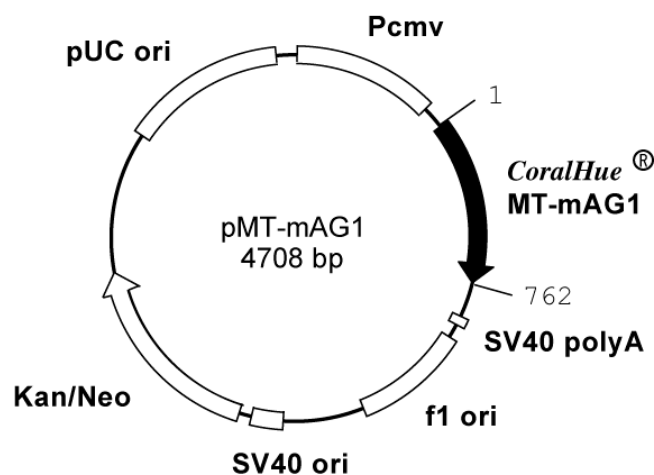
Karasawa, S., *et al.*, *J. Biol. Chem.* **278**, 34167-71 (2003)

#### GenBank:

Accession Numbers: AB107915, AB108447

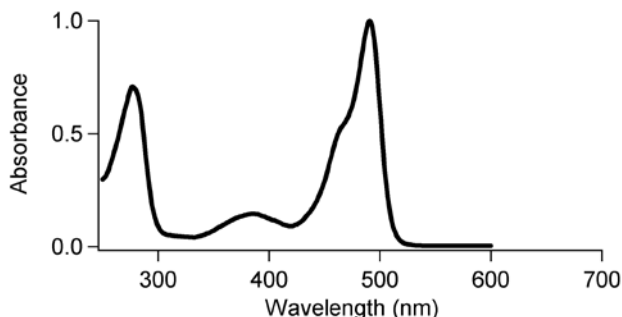
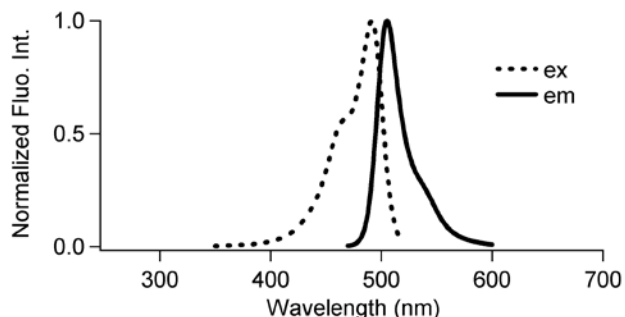
#### RELATED PRODUCTS:

- AM-V0202M *CoralHue*<sup>®</sup> ER-targeted monomeric Azami-Green 1 (pER-mAG1)
- AM-V0203M *CoralHue*<sup>®</sup> Plasma Membrane-targeted monomeric Azami-Green 1 (pPM-mAG1)
- AM-V0205M *CoralHue*<sup>®</sup> β-Actin-targeted monomeric Azami-Green 1 (pPM-mAG1)
- AM-V0214M *CoralHue*<sup>®</sup> Nucleoplasm-targeted Azami-Green 1 (pNP-AG)



**CoralHue<sup>®</sup> mAG1**: 226 amino acids (without MT signal sequence)

	Excit./Emiss.Maxima (nm)	Extinction Coefficient(M <sup>-1</sup> cm <sup>-1</sup> )	Fluorescence Quantum Yield	pH sensitivity
mAG1	492/505	55,500 (492 nm)	0.74	pK a=5.8



**CoralHue<sup>®</sup> MT-mAG1**

**1) DNA sequence**

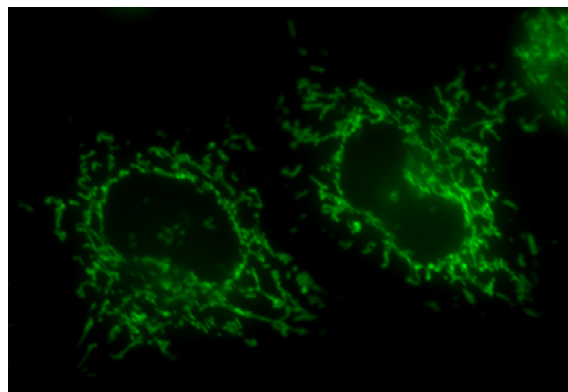
ATGCTGAGCCTGCGCCAGAGTATCCGCTTCTTCAAGCCCGCCAC  
CAGGACTCTGTGCAGTTCAGGGCGGCCGCGGGGACAATGGTGA  
 GTGTGATTAACCAGAGATGAAGATCAAGCTGTGTATGAGAGGC  
 ACTGTAACGGGCATAATTCGTGATTGAAGGAGAAGGAAAAGG  
 AAATCCTTACGAGGGAACGCAGATTTTAGACCTGAACGTCACTG  
 AAGGCGCACCTCTGCCTTTCGCTTACGATATCTTGACAACAGTG  
 TTCCAGTACGGCAACAGGGCATTACCAAGTACCCAGCAGATAT  
 TCAGGACTATTTCAAGCAGACTTTTCCTGAGGGGTATCACTGGG  
 AAAGAAGCATGACTTATGAAGACCAGGGCATTTCACCGCCACA  
 AGCAACATAAGCATGAGGGGCGACTGTTTTTCTATGACATTGG  
 TTTTGATGGCACCAACTTTCCTCCAATGGTCCGTTATGCAGA  
 AGAAGACTCTTAAATGGGAGCCATCCACTGAGAAAATGTACGTA  
 GAGGATGGAGTGCTGAAGGGTATGTTAACATGCGCCTGTTGCT  
 TGAAGGAGGTGGCCATTATCGATGTGATTTCAAACACTACTTACA  
 AAGCAAAGAAGGAGGTCCGTTTGCCAGACGCGCACAAAATTGAC  
 CACCGCATTGAGATTTTGAAGCATGACAAAGATTACAACAAGGT  
 CAAGCTCTATGAGAATGCCGTTGCTCGCTATTCTATGCTGCCGA  
 GTCAGGCCAAG

(Underlined sequences in red are from cytochrome C oxidase subunit IV.)

**2) Amino acid sequence**

MLSLRQSI RFFK PATRTL CSSRAAAGTMVSVIKPEMKIKLCMRG  
 TVNGHNFVIEGEGKGNPYEGTQILDNLNTEGAPLPFAYDILTTV  
 FQYGNRAFTKYPADIQDYFKQTFPEGYHWERSMTYEDQGICTAT  
 SNISMRGDCFFYDIRFDGTFNPPNGPVMQKTLKWPSTEKMYV  
 EDGVLKGDVNMRLLEGGGHYRCDFKTTYKAKKEVRLPDAHKID  
 HRIEILKHDKDYNKVKLYENAVARYSMLPSQAK

(Underlined sequences in red are from cytochrome C oxidase subunit IV.)



**CoralHue<sup>®</sup> MT-targeted mAG1 expression in HeLa cells.**

**CoralHue<sup>®</sup> 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).

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