

Fluorescent Protein Expression Plasmid

CoralHue[®]

Mitochondria-targeted mAG1 Expression Plasmid (pMT-mAG1)

Code No.

AM-V0201

Quantity

20 µg

BACKGROUND: This plasmid is designed for expression of Mitochondria-targeted *CoralHue*[®] Monomeric Azami Green 1 (MT-mAG1) in mammalian cells. *CoralHue*[®] 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*[®] 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 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*[®] AG gene was originally 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[®] MT-mAG1(Including Stop Codon): 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 clinical or diagnostic use.

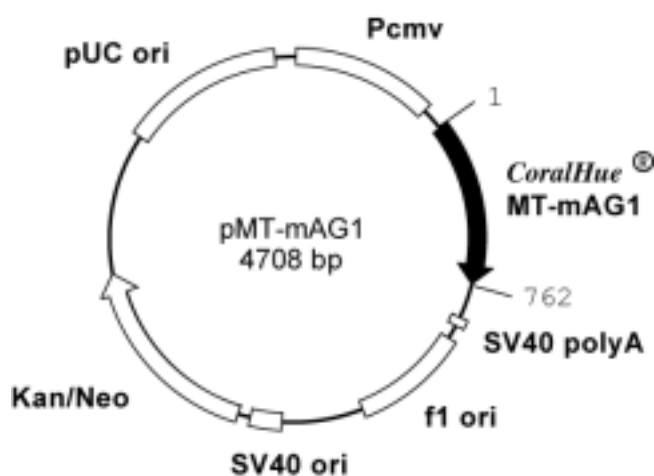
REFERENCES:

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

Miyawaki, A., *et al. Nature* **388**, 882-887 (1997)

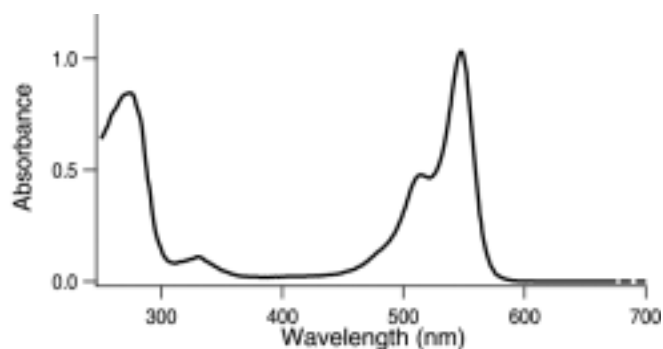
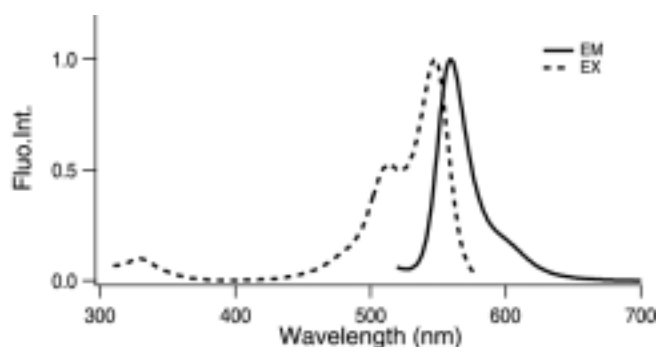
GenBank:

Accession Numbers: AB107915, AB108447



CoralHue[®] MT-mAG1: 253 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	pKa=5.8



CoralHue[®] MT-mAG1 DNA Sequence

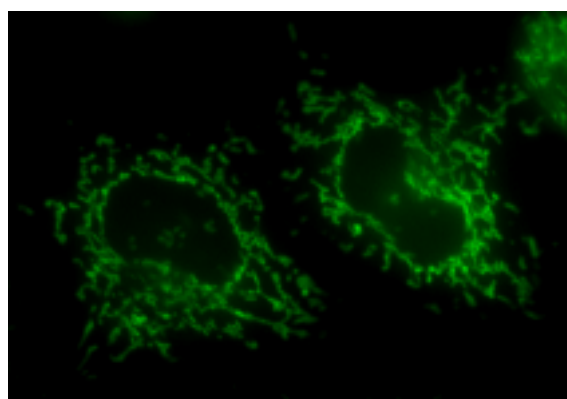
ATGCTGAGCCTGCGCCAGAGTATCCGCTTCTTCAAGCCCGCCAC
CAGGACTCTGTGCAGTTCAGGGCGGCCGCGGGACAATGGTGA
 GTGTGATTAAACCAGAGATGAAGATCAAGCTGTGTATGAGAGGC
 ACTGTAACGGGCATAATTTTCGTGATTGAAGGAGAAGGAAAAGG
 AAATCCTTACGAGGGAACGCAGATTTTAGACCTGAACGTCAGTG
 AAGGCGCACCTCTGCCTTTTCGCTTACGATATCTTGACAACAGTG
 TTCCAGTACGGCAACAGGGCATTACCAAGTACCCAGCAGATAT
 TCAGGACTATTTCAAGCAGACTTTTCTGAGGGGTATCACTGGG
 AAAGAAGCATGACTTATGAAGACCAGGGCATTTCACCGCCACA
 AGCAACATAAGCATGAGGGGCGACTGTTTTTTCTATGACATTTCG
 TTTTGATGGCACCAACTTTCCTCCAATGGTCCGGTTATGCAGA
 AGAAGACTCTTAAATGGGAGCCATCCACTGAGAAAATGTACGTA
 GAGGATGGAGTGCTGAAGGGTATGTTAACATGCGCCTGTTGCT
 TGAAGGAGGTGGCCATTATCGATGTGATTTCAAACTACTTACA
 AAGCAAAGAAGGAGGTCCGTTTGCCAGACGCGCACAAAATTGAC
 CACCGCATTGAGATTTTGAAGCATGACAAAGATTACAACAAGGT
 CAAGCTCTATGAGAATGCCGTTGCTCGCTATTCTATGCTGCCGA
 GTCAGGCCAAGTAA

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

CoralHue[®] MT-mAG1 Amino Acid Sequence

MLSLRQSIRFFKPATRTLCSSRAAAGTMVSVIKPEMKIKLCMRG
 TVNGHNFVIEGEGKGNPYEGTQILDNLNTEGAPLPFAYDILTTV
 FQYGNRAFTKYPADIQDYFKQTFPEGYHWERSMTYEDQGICTAT
 SNISMRGDCFFYDIRFDGTFNPPNGPVMQKTKLWEPSTEKMYV
 EDGVLKGDVNMRLLEGGHYRCDFKTTYKAKKEVRLPDAHKID
 HRIEILKHKDYNKVKLYENAVARYSMLPSQAK*

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



CoralHue[®] MT-mAG1 expression in HeLa cells

Fluorescent protein **CoralHue[®] MT-mAG1** used in this product was co-developed with the Laboratory for Cell Function and Dynamics, the Advanced Technology Development Center, the Brain Science Institute, and the Institute of Physical and Chemical Research (RIKEN) (lab head Dr. Atsushi Miyawaki).

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