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

Amalgaam MBL

Fluorescent Protein Expression Plasmid

CoralHue®

β-Actin-targeted monomeric Azami-Green 1 (pActin-mAG1)

Code No.	Quantity
AM-V0205M	20 µg

BACKGROUND: This plasmid is designed for expression of ***CoralHue***® β-Actin-targeted monomeric Azami-Green 1 (Actin-mAG1) in mammalian cells. Human cytoplasmic β-Actin is fused to the C-terminus of mAG1.
CoralHue® Azami-Green (AG), which was 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.

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® Actin-mAG1 (Including Stop Codon): 1-1884
CMV promoter: bases 5227-5799
SV40 polyA: bases 2037-2071
Kanamycin/Neomycin resistance gene: bases 3114-3905
pUC origin: bases 4493-5136
f1 origin: bases 2134-2589
SV40 origin: bases 2930-3065

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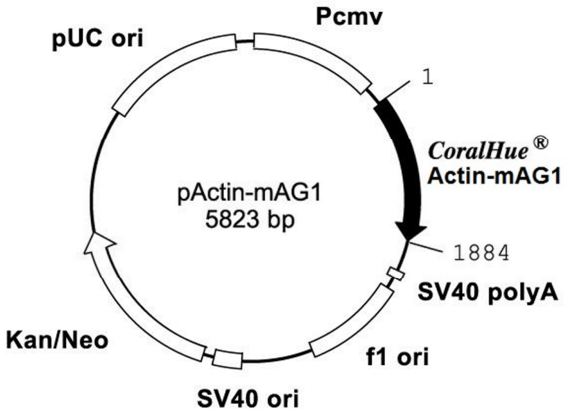
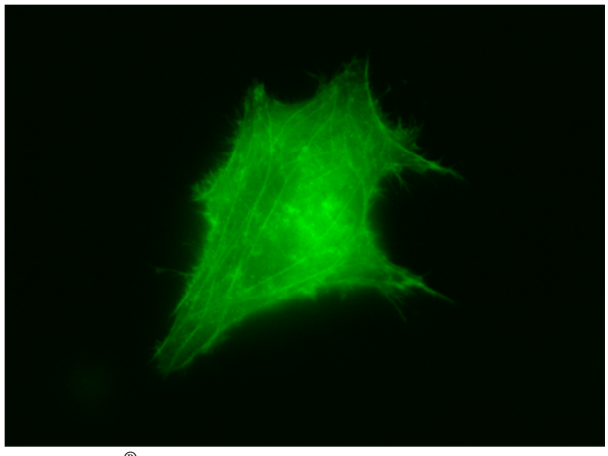
REFERENCE:
Karasawa, S., *et al., J. Biol. Chem.* **278,** 34167-71 (2003)

RELATED PRODUCTS:
AM-V0201M ***CoralHue***® Mitochondria-targeted monomeric Azami-Green 1 (pMT-mAG1)
AM-V0202M ***CoralHue***® ER-targeted monomeric Azami-Green 1 (pER-mAG1)
AM-V0203M ***CoralHue***® Plasma Membrane-targeted monomeric Azami-Green 1 (pPM-mAG1)
AM-V0214M ***CoralHue***® Nucleoplasm-targeted Azami-Green (pNP-AG)





CoralHue® **Actin-mAG1 expression in HeLa cells.**

Amalgaam
MBL MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
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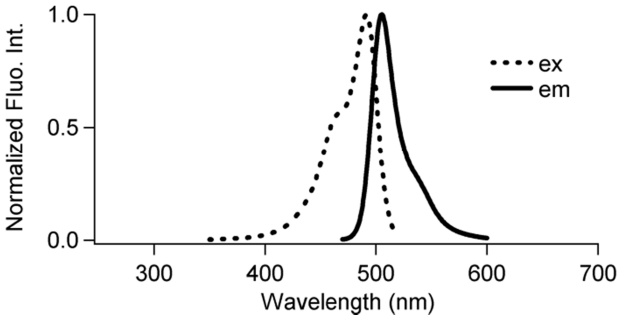
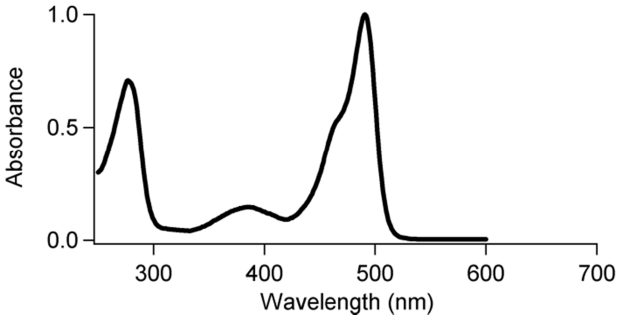
***CoralHue*® mAG1:** 226 amino acids (without β-Actin)

	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® Actin-mAG1

1) DNA Sequence

ATGGTGAGTGTGATTAAACCAGAGATGAAGATCAAGCTGTGTAT
GAGAGGCACTGTAAACGGGCATAATTTCGTGATTGAAGGAGAAG
GAAAAGGAAATCCTTACGAGGGAACGCAGATTTTAGACCTGAAC
GTCACTGAAGGCGCACCTCTGCCTTTCGCTTACGATATCTTGAC
AACAGTGTTCCAGTACGGCAACAGGGCATTCACCAAGTACCCAG
CAGATATTCAGGACTATTTCAAGCAGACTTTTCCTGAGGGGTAT
CACTGGGAAAGAAGCATGACTTATGAAGACCAGGGCATTTGCAC
CGCCACAAGCAACATAAGCATGAGGGGCGACTGTTTTTTCTATG
ACATTCGTTTTGATGGCACCAACTTTCCTCCCAATGGTCCGGTT
ATGCAGAAGAAGACTCTTAAATGGGAGCCATCCACTGAGAAAAT
GTACGTAGAGGATGGAGTGCTGAAGGGTGATGTTAACATGCGCC
TGTTGCTTGAAGGAGGTGGCCATTATCGATGTGATTTCAAAACT
ACTTACAAAGCAAAGAAGGAGGTCCGTTTGCCAGACGCGCACAA
AATTGACCACCGCATTGAGATTTTGAAGCATGACAAAGATTACA
ACAAGGTCAAGCTCTATGAGAATGCCGTTGCTCGCTATTCTATG
CTGCCGAGTCAGGCCAAGACCGGTAATTCCGCTGACGGCGGCGG
AGGATCGGGTGGTAGTGGTGGTTCAGGAGGAGGATCGACCCAAG
GAGGATCCATGGATGATGATATCGCCGCGCTCGTCGTCGACAAC
GGCTCCGGCATGTGCAAGGCCGGCTTCGCGGGCGACGATGCCCC
CCGGGCCGTCTTCCCCTCCATCGTGGGGCGCCCCAGGCACCAGG
GCGTGATGGTGGGCATGGGTCAGAAGGATTCCTATGTGGGCGAC
GAGGCCCAGAGCAAGAGAGGCATCCTCACCCTGAAGTACCCCAT
CGAGCACGGCATCGTCACCAACTGGGACGACATGGAGAAAATCT
GGCACCACACCTTCTACAATGAGCTGCGTGTGGCTCCCGAGGAG
CACCCCGTGCTGCTGACCGAGGCCCCCCTGAACCCCAAGGCCAA
CCGCGAGAAGATGACCCAGATCATGTTTGAGACCTTCAACACCC
CAGCCATGTACGTTGCTATCCAGGCTGTGCTATCCCTGTACGCC
TCTGGCCGTACCACTGGCATCGTGATGGACTCCGGTGACGGGGT
CACCCACACTGTGCCCATCTACGAGGGGTATGCCCTCCCCCATG
CCATCCTGCGTCTGGACCTGGCTGGCCGGGACCTGACTGACTAC
CTCATGAAGATCCTCACCGAGCGCGGCTACAGCTTCACCACCAC
GGCCGAGCGGGAAATCGTGCGTGACATTAAGGAGAAGCTGTGCT
ACGTCGCCCTGGACTTCGAGCAAGAGATGGCCACGGCTGCTTCC
AGCTCCTCCCTGGAGAAGAGCTACGAGCTGCCTGACGGCCAGGT
CATCACCATTGGCAATGAGCGGTTCCGCTGCCCTGAGGCACTCT
TCCAGCCTTCCTTCCTGGGCATGGAGTCCTGTGGCATCCACGAA
ACTACCTTCAACTCCATCATGAAGTGTGACGTGGACATCCGCAA
AGACCTGTACGCCAACACAGTGCTGTCTGGCGGCACCACCATGT
ACCCTGGCATTGCCGACAGGATGCAGAAGGAGATCACTGCCCTG
GCACCCAGCACAATGAAGATCAAGATCATTGCTCCTCCTGAGCG
CAAGTACTCCGTGTGGATCGGCGGCTCCATCCTGGCCTCGCTGT
CCACCTTCCAGCAGATGTGGATCAGCAAGCAGGAGTATGACGAG
TCCGGCCCCTCCATCGTCCACCGCAAATGCTTC

(Underlined sequences in red are from peptide linker and β-Actin.)

2) Amino Acid Sequence

MVSVIKPEMKIKLCMRGTVNGHNFVIEGEGKGNPYEGTQILDLN
VTEGAPLPFAYDILTTVFQYGNRAFTKYPADIQDYFKQTFPEGY
HWERSMTYEDQGICTATSNISMRGDCFFYDIRFDGTNFPPNGPV
MQKKTLKWEPSTEKMYVEDGVLKGDVNMRLLLEGGGHYRCDFKT
TYKAKKEVRLPDAHKIDHRIEILKHDKDYNKVKLYENAVARYSM
LPSQAKTGNSADGGGGSGGSGGGSTQGGSMDDDIAALVVDN
GSGMCKAGFAGDDAPRAVFPSIVGRPRHQGVMVGMGQKDSYVGD
EAQSKRGILTLKYPIEHGIVTNWDDMEKIWHHTFYNELRVAPEE
HPVLLTEAPLNPKANREKMTQIMFETFNTPAMYVAIQAVLSLYA
SGRTTGIVMDSGDGVTHTVPIYEGYALPHAILRLDLAGRDLTDY
LMKILTERGYSFTTTAEREIVRDIKEKLCYVALDFEQEMATAAS
SSSLEKSYELPDGQVITIGNERFRCPEALFQPSFLGMESCGIHE
TTFNSIMKCDVDIRKDLYANTVLSGGTTMYPGIADRMQKEITAL
APSTMKIKIIAPPERKYSVWIGGSILASLSTFQQMWISKQEYDE
SGPSIVHRKCF

(Underlined sequences in red are from peptide linker and β-Actin.)

CoralHue® **Actin-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***® **Actin-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.