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

Amalgaam MBL

Fluorescent Protein Cloning Vector

CoralHue®

pKaede-S1

Code No.	Quantity
AM-V0011	20 μg

BACKGROUND: ***CoralHue***® Kaede protein emits bright green fluorescence that can be irreversibly converted to red. The red fluorescence is comparable in intensity to the green and is stable under usual aerobic conditions. The green-to-red conversion is highly sensitive to irradiation with UV or violet light (350-410 nm). Maximal illumination results in a 2,000-fold increase in the ratio of red-to-green signal. The excitation lights used to elicit red and green fluorescence do not induce the photoconversion. This property provides a simple and powerful technique for regional optical marking.

SOURCE: The ***CoralHue***® Kaede gene was cloned from stony coral (*Trachyphyllia geoffroy*).

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

PURITY: A260/A280 > 1.5

STORAGE: Stored at -20°C

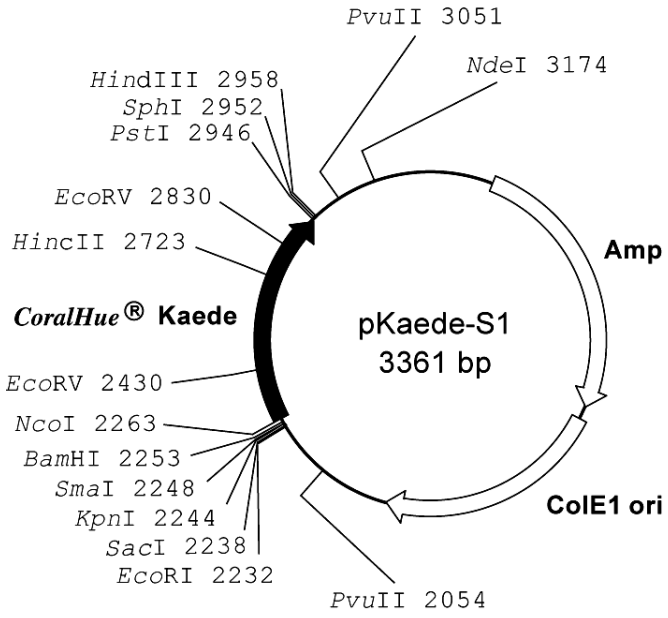
SEQUENCE LANDMARKS:
CoralHue® Kaede gene (including stop codon): bases 2265-2945
Ampicillin resistance gene: bases 200-1059
*Col*E1 origin: bases 1062-2002

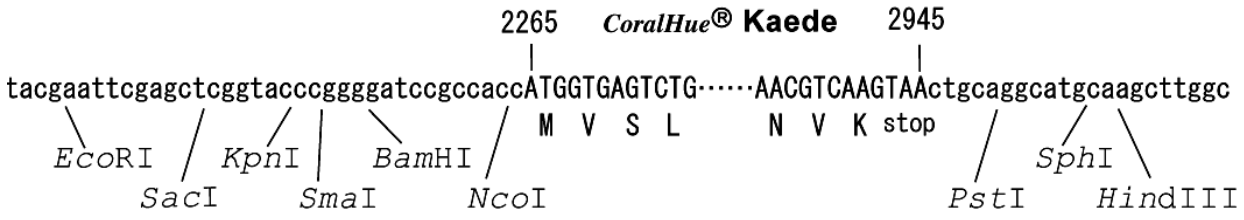
INTENDED USE:
For Research Use Only. Not for use in diagnostic procedures.

REFERENCE:
Ando, R., *et al.*, *PNAS* **99**, 12651-12656 (2002)

Gen Bank:
Accession Number: AB085641

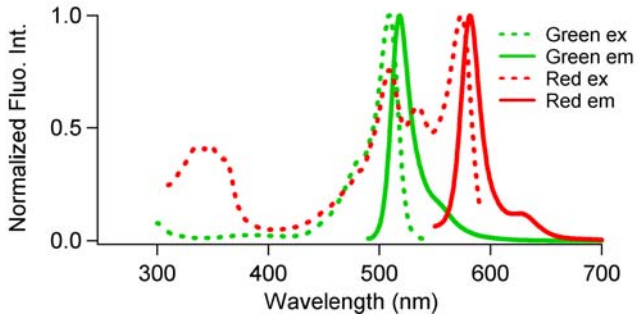
NOTICES:
1) ***CoralHue***® Kaede forms tetramer.
2) pKaede-S1 is not expression vector. When ***CoralHue***® Kaede is expressed in any cells, the cDNA must be transferred to appropriate expression vectors by your own.
3) Val is inserted to second amino acid of ***CoralHue***® Kaede to form kozak sequence. (The corresponding nucleotide sequence is GTG.)
4) The nucleotide sequence coding Thr^{158} of ***CoralHue***® Kaede is changed from ACC to ACA to delete *Nco* I restriction site.
5) The nucleotide sequence coding His^{213} of ***CoralHue***® Kaede is changed from CAT to CAC to delete *Sph* I restriction site.

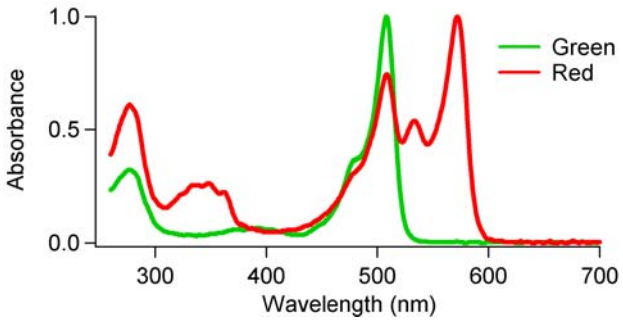




***CoralHue*® Kaede:** 226 amino acids

	Excit./Emiss.Maxima (nm)	Extinction Coefficient ($M^{-1}cm^{-1}$)	Fluorescence Quantum Yield	pH sensitivity
Green	508/518	98,800 (508 nm)	0.88	p*K*a=5.6
Red	572/580	60,400 (572 nm)	0.33	p*K*a=5.6





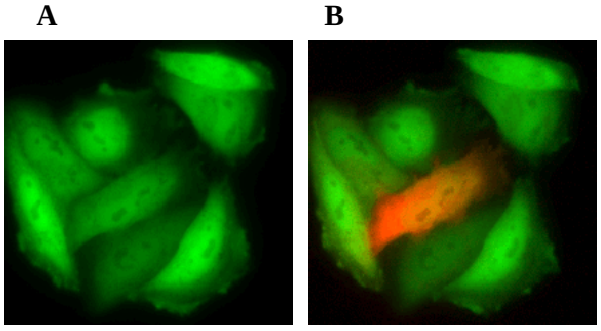
CoralHue® Kaede

1) DNA sequence

ATGGTGAGTCTGATTAAACCAGAAATGAAGATCAAGCTGCTT
ATGGAAGGCAATGTAAACGGGCACCAGTTTGTTATTGAGGGA
GATGGAAAAGGCCATCCTTTTGAGGGAAAACAGAGTATGGAC
CTTGTAGTCAAAGAAGGCGCACCTCTCCCTTTTGCCTACGAT
ATCTTGACAACAGCATTCCATTATGGTAACAGGGTTTTTGCT
AAATACCCAGACCATATACCAGACTACTTCAAGCAGTCGTTT
CCCAAAGGGTTTTCTTGGGAGCGAAGCCTGATGTTCGAGGAC
GGGGGCGTTTGCATCGCTACAAATGACATAACACTGAAAGGA
GACACTTTTTTTAACAAAGTTCGATTTGATGGCGTAAACTTT
CCCCCAAATGGTCCTGTTATGCAGAAGAAGACTCTGAAATGG
GAGGCATCCACTGAGAAAATGTATTTGCGTGATGGAGTGTTG
ACGGGCGATATTACAATGGCTCTGCTGCTTAAAGGAGATGTC
CATTACCGATGTGACTTCAGAACTACTTACAAATCTAGGCAG
GAGGGTGTCAAGTTGCCAGGATATCACTTTGTCGATCACTGC
ATCAGCATATTGAGGCATGACAAAGACTACAACGAGGTTAAG
CTGTATGAGCACGCTGTTGCCCATTCTGGATTGCCGGACAAC
GTCAAG

2) Amino acid sequence

MVSLIKPEMKIKLLMEGNVNGHQFVIEGDGKGHPFEGKQSMDLV
VKEGAPLPFAYDILTTAFHYGNRVFAKYPDHIPDYFKQSFPKGF
SWERSLMFEDGGVCIATNDITLKGDTFFNKVRFDGVNFPPNGPV
MQKKTLKWEASTEKMYLRDGVLTGDITMALLLKGDVHYRCDFRT
TYKSRQEGVKLPGYHFVDHCISILRHDKDYNEVKLYEHAVAHSG
LPDNVK



***CoralHue*® Kaede expression in HeLa cells.**
A; Before UV irradiation
B; After UV irradiation

***CoralHue*® Kaede** 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).