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

Amalgaam MBL

Fluorescent Protein Cloning Vector

CoralHue®

Kikume Green-Red 1 (pKikGR1-S1)

Code No.	Quantity
AM-V0081M	20 µg

BACKGROUND: ***CoralHue***® Kikume Green-Red 1 (KikGR1) emits bright green fluorescence that can be irreversibly converted to red. The red fluorescence is comparable in intensity to the green fluorescence and is stable under usual aerobic conditions. This green-to-red photoconversion is highly sensitive to irradiation with UV or violet light (360-410 nm). Maximal illumination results in a robust increase in the ratio of red-to-green signal. The excitation wavelengths used to elicit red or green fluorescence do not induce the photoconversion. This property provides a simple and powerful technique for regional optical marking.

SOURCE: The ***CoralHue***® KikGR1 gene was originally cloned from stony coral (*Favia favus*).

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

PURITY: A260/A280 > 1.5

STORAGE: Store at -20°C.

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

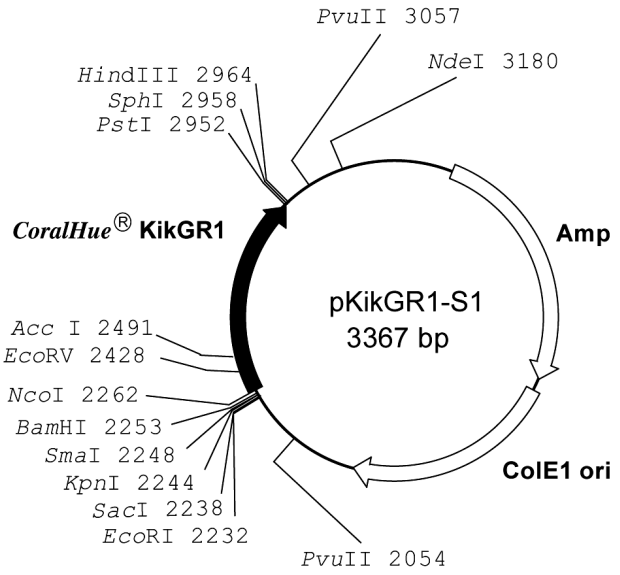
SEQUENCE LANDMARKS:
CoralHue® KikGR1 gene (including stop codon): bases 2265-2951
Ampicillin resistance gene: bases 200-1059
*Col*E1 origin: bases 1062-2002

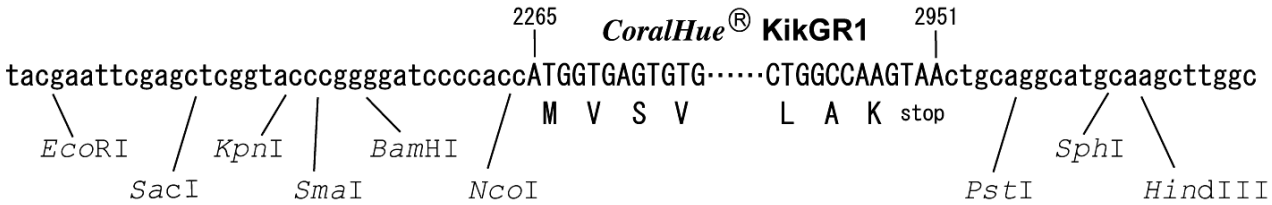
REFERENCE:
Tsutsui, H., *et al., EMBO Rep.* **6**, 233-238 (2005)

GenBank:
Accession Number: AB193293

NOTICES:
1) ***CoralHue***® KikGR1 forms tetramers.
2) pKikGR1-S1 is not an expression vector. When ***CoralHue***® KikGR1 is to be expressed in cells, the cDNA must be transferred to the appropriate expression vector.
3) The sequence around the initiation methionine (Met) codon has been modified to the Kozak consensus sequence. As a result, there is an insertion of a Val codon (GTG) at the second amino acid location of ***CoralHue***® KikGR1.

RELATED PRODUCTS:
AM-V0082M ***CoralHue***® Kikume Green-Red 1 (pKikGR1-MC1)
AM-V0083M ***CoralHue***® Kikume Green-Red 1 (pKikGR1-MN1)





Amalgaam
MBL MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
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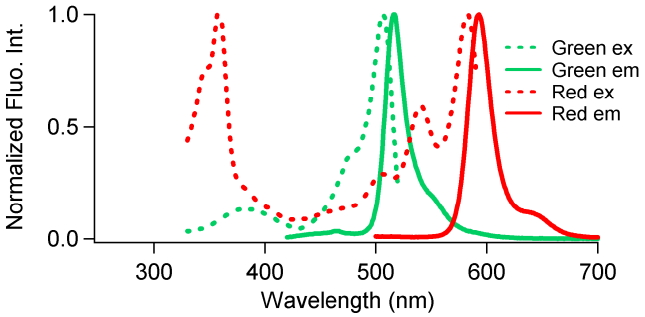
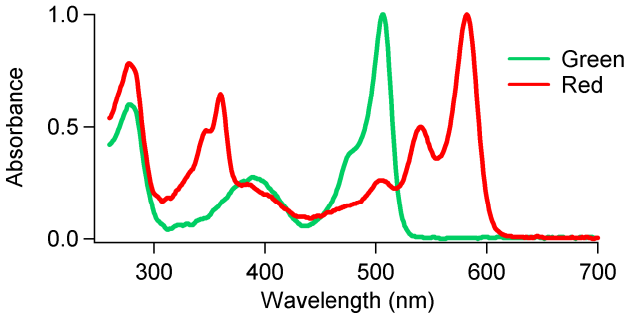
CoralHue® KikGR1: 228 amino acids

	Excit./Emiss.Maxima (nm)	Extinction Coefficient ($M^{-1}cm^{-1}$)	Fluorescence Quantum Yield	pH Sensitivity
Green	507/517	53,700 (507 nm)	0.70	p*K*a = 7.8
Red	583/593	35,100 (583 nm)	0.65	p*K*a = 5.5





CoralHue® KikGR1

1) DNA Sequence

ATGGTGAGTGTGATTACATCAGAAATGAAGATCGAGCTGCGT
ATGGAAGGCGCTGTAAACGGGCACAAGTTCGTGATTACAGGG
AAAGGAAGTGGCCAGCCTTTCGAGGGAATACAGAATGTGGAC
CTGACAGTCATAGAGGGCGGACCTCTTCCTTTTGCTTTCGAT
ATCCTGACAACAGCATTCCATTACGGCAACCGGGTATTTGTC
GAATACCCAGAAGAAATAGTAGACTACTTCAAGCAGTCGTTT
CCTGAGGGTTATTCTTGGGAACGAAGCATGAGTTACGAAGAC
GGGGGAATTTGCCTCGCCACAAACAATATAACGATGAAGAAA
GACGGCAGCAACTGTTTTGTCAATGAAATTCGATTTGATGGT
GTGAACTTTCCTGCCAATGGTCCAGTTATGCAGAGGAAGACC
GTCAAATGGGAGCCATCCACTGAGAAAATGTATGTGCGTGAT
GGAGTGCTGAAGGGTGATGTAAACATGGCTCTGTTGCTTCAA
GGAGGTGGCCATTACCGATGTGACTTCAGAACTACTTACAAA
GCAAAGAAGGTTGTCCAGTTGCCAGACTATCACTTCGTGGAT
CATCAAATGGAGATAACAAGCCATGACAAGGATTACAACAAG
GTTAAGCTGTATGAGCACGCTAAAGCTCATTCCGGGCTGCCA
AGGCTGGCCAAG

2) Amino acid sequence

MVSVITSEMKIELRMEGAVNGHKFVITGKGSGQPFEGIQNVD
LTVIEGGPLPFAFDILTTAFHYGNRVFVEYPEEIVDYFKQSF
PEGYSWERSMSYEDGGICLATNNITMKKDGSNCFVNEIRFDG
VNFPANGPVMQRKTVKWEPSTEKMYVRDGVLKGDVNMALLLQ
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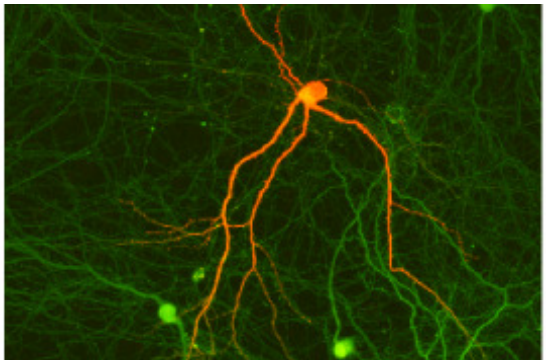

***CoralHue*® KikGR1expression in neuron.**
Photoconverted KikGR1 emits red fluorescence, while the fluorescence of untreated KikGR1 is green.

This data was provided by Dr. Hidekazu Tsutsui and Dr. Atsushi Miyawaki. (Laboratory for Cell Function and Dynamics, Brain Science Institute, RIKEN)