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

Amalgaam MBL

Fluorescent Protein Expression Vector

CoralHue®

Kikume Green-Red 1 (pKikGR1-MC1)

Code No.	Quantity
AM-V0082M	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 (350-410 nm). Maximal illumination results in a robust increase in the ratio of red-to-green signal. The excitation lights used to elicit red or green fluorescence do not induce the photoconversion. This property provides a simple and powerful technique for regional optical marking. This expression plasmid is designed for insertion of a target gene downstream of the pKikGR1 sequence.

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:
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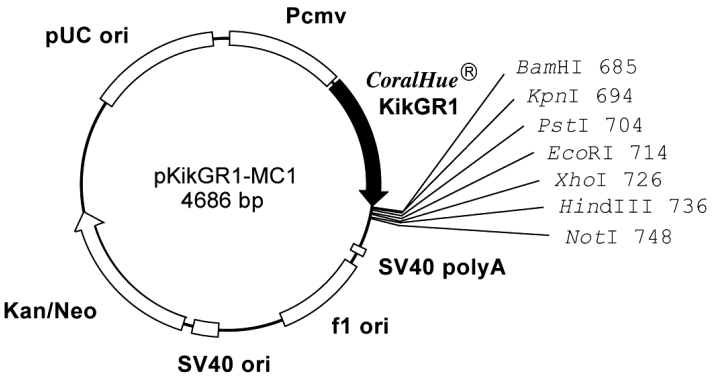
SEQUENCE LANDMARKS:
CoralHue® KikGR1 gene: bases 1-684
CMV promoter: bases 4090-4662
SV40 polyA: bases 900-934
Kanamycin/Neomycin resistance gene: bases 1977-2768
pUC origin: bases 3356-3999
f1 origin: bases 997-1452
SV40 origin: bases 1793-1928

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

GenBank:
Accession Numbers: AB193293

NOTICES:
1) ***CoralHue***® KikGR1 forms tetramers.
2) 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.
3) It is highly recommended to add a stop codon at the 3'-terminus of the cDNA when the *Not* I site is to be used for the cDNA insertion, as only one of the three different frames of stop codons is located immediately downstream of the *Not* I site.

RELATED PRODUCTS:
AM-V0081M ***CoralHue***® Kikume Green-Red 1 (pKikGR1-S1)
AM-V0083M ***CoralHue***® Kikume Green-Red 1 (pKikGR1-MN1)



CoralHue® KikGR1 684 — 763

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...CTGGCCAAG gga tcc tca ggt acc gga act gca gca gag aat tcg gga aac tcg aga aca aag ctt gaa taa gcg gcc gcg act cta g
             BamHI    KpnI     PstI     EcoRI    XhoI     HindIII  NotI
   L  A  K   G  S  S  G  T  G  T  A  A  E  N  S  G  N  S  R  T  K  L  E  stop
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Amalgaam
MBL MEDICAL & BIOLOGICAL LABORATORIES CO., LTD.
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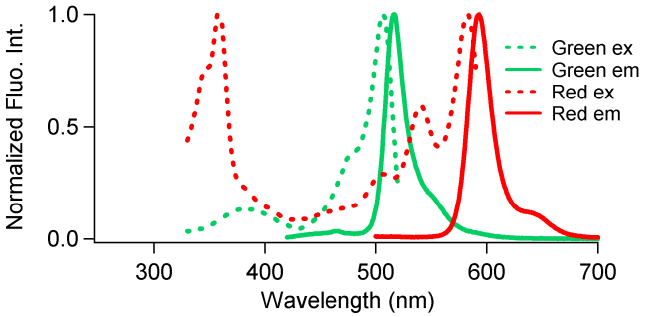
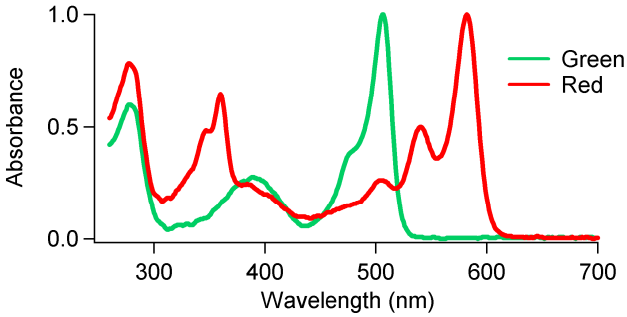
CoralHue® KikGR1: 228 amino acids

	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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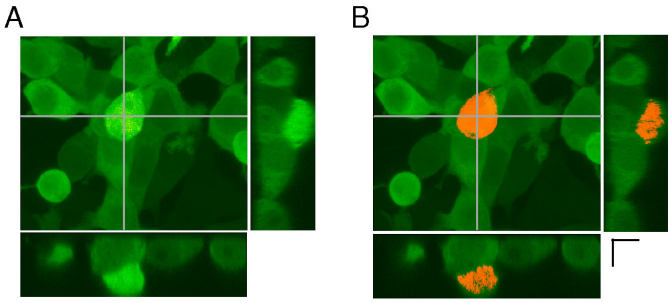

***CoralHue*® KikGR1 expression in HEK293 cells.**
A: Before UV irradiation
B: After UV irradiation

***CoralHue*® KikGR1** is the product licensed to MBL Co., Ltd., for patent application JP4648834, US7960530, and US8378077 owned by the Institute of Physical and Chemical Research (RIKEN)