

Fluorescent Protein Expression Plasmid

CoralHue[®]

Nucleoplasm-targeted Kusabira-Orange 1 (pNP-KO1)

Code No.
AM-V0234M

Quantity
20 µg

BACKGROUND: This plasmid is designed for expression of Nucleoplasm-targeted *CoralHue*[®] Kusabira Orange 1 (NP-KO1) in mammalian cells. *CoralHue*[®] Kusabira Orange 1 (KO1), which was originally cloned from the stony coral whose Japanese name is “Kusabira-ishi”, absorbs light maximally at 548 nm and emits orange light at 561 nm. *CoralHue*[®] KO1 rapidly matures to form a brightly fluorescent dimer. Targeting of KO1 to the nucleoplasm is achieved with the signal peptide fused to the C-terminus of KO1.

SOURCE: The *CoralHue*[®] KO1 gene was cloned from the stony coral “Kusabira-ishi (*Fungia concinna*)”.

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[®] NP-KO1 (Including Stop Codon): 1-726
CMV promoter: bases 4069-4641
SV40 polyA: bases 879-913
Kanamycin/Neomycin resistance gene: bases 1956-2747
pUC origin: bases 3335-3978
f1 origin: bases 976-1431
SV40 origin: bases 1772-1907

INTENDED USE:

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

REFERENCE:

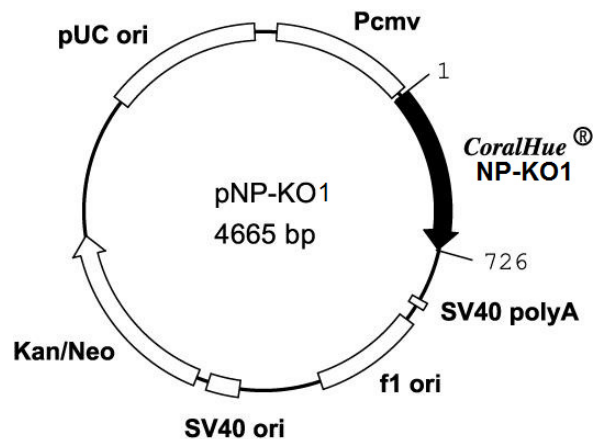
1) Karasawa, S., *et al.* *Biochem J.* **381**, 307-312 (2003)

GenBank:

Accession Numbers: AB128819, AB128821

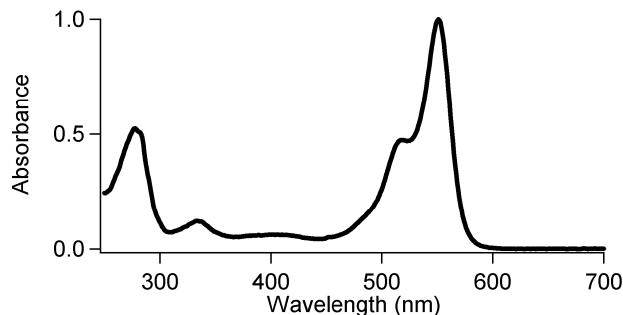
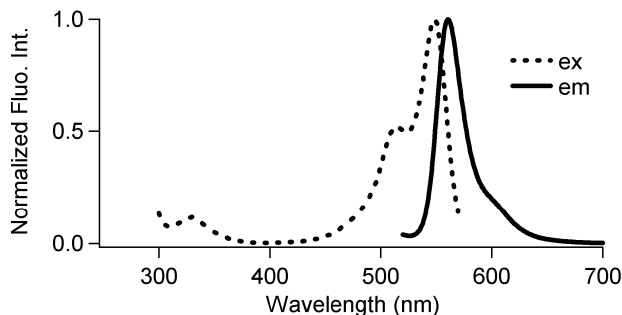
RELATED PRODUCTS:

- AM-V0221M *CoralHue*[®] Mitochondria-targeted monomeric Kusabira-Orange 1
- AM-V0222M *CoralHue*[®] ER-targeted monomeric Kusabira-Orange 1
- AM-V0223M *CoralHue*[®] Plasma Membrane-targeted mKusabira-Orange 1
- AM-V0225M *CoralHue*[®] β-Actin monomeric Kusabira-Orange 1



CoralHue® KO1: 218 amino acids (without NP signal sequence)

	Excit./Emiss.Maxima (nm)	Extinction Coefficient($M^{-1}cm^{-1}$)	Fluorescence Quantum Yield	pH sensitivity
KO1	548/561	73,700 (548 nm)	0.45	pK _a <5.0



CoralHue® NP-KO1

1) DNA sequence

ATGGTGAGTGTGATTAACCCAGAGATGAAGATGAAGTACTTCATGG
ACGGCTCCGTCAATGGGCATGAGTTCACAGTTGAAGGTGAAGGCAC
AGGCCAAACCTTACGAGGGACATCAAGAGATGACACTACGCGTCACA
ATGGCCAAGGGCGGGCCAATGCCTTTCTCGTTTGACTTAGTGTCAC
ACACGTTCTGTTACGGCCACAGACCTTTTACTAAATATCCAGAAGA
GATACCAGACTATTTCAAACAAGCATTTCCTGAAGGCCTGTCATGG
GAAAGGTCGTTGCAGTTCGAAGATGGTGGTTCGCTGCCGTGAGTG
CGCATATAAGCCTTAGAGGAACTGCTTCGAGCACAAATCCAAATT
TGTTGGGGTTAACTTTCTGCCGATGGTCCTGTGATGCAAAACCAA
AGTTCTGATTGGGAGCCATCAACCGAGAAAATTACTACCTGCGACG
GAGTTCGAAGGTGATGTTACGATGTACCTAAAACCTGCGGGAGG
CGGCAATCACAAATGCCAATTCAAGACTACTTACAAGGCGGCAAAA
AAGATTCTTAAATGCCACAAAGCCATTTTCATCGGGCATCGCCTCG
TCAGGAAAACCGAAGGCAACATTACTGAGCTGGTAGAAGATGCAGT
AGCTCATTGCGGATCCGGTGTGAGTGAAGTGAAGGAGTGAAGAAGTA
GCTAAGAAGAAGAGTAAAAGGAAAAGGATAAA

(Underlined sequences in red are from poly (ADP-ribose) polymerase.)

2) Amino acid sequence

MVSVIKPEMKMKYFMDGSVNGHEFTVEGEGTGKPYEGHQEMTLRVT
MAKGGPMPFSFDLVSHTF CYGHRPFTKYPEEIPDYFKQAFPEGLSW
ERSLQFEDGGFAAVSAHISLRGNCFEHKSKFVGVNFPADGPVMQNG
SSDWEPESTEKITTCDGVLKGDVTMYLKLAGGGNHKCGFKTTYKAAK
KILKMPQSHFIGHRLVRKTEGNITELVEDAVAHCGSGDEVEGVVEEV
AKKSKKEKDK

(Underlined sequences in red are from poly (ADP-ribose) polymerase.)



CoralHue® NP-KO1 expression in HeLa cells.

CoralHue® KO1 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).

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