

## Fluorescent Protein Expression Plasmid

*CoralHue*<sup>®</sup>

### Nucleoplasm-targeted KO Expression Plasmid (pNP-KO)

Code No.  
AM-V0234

Quantity  
20 µg

**BACKGROUND:** This plasmid is designed for expression of Nucleoplasm-targeted *CoralHue*<sup>®</sup> Kusabira Orange (NP-KO) in mammalian cells. *CoralHue*<sup>®</sup> Kusabira Orange (KO), 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*<sup>®</sup> KO rapidly matures to form a brightly fluorescent dimer. Targeting of KO to the Nucleoplasm is achieved with the signal peptide fused to the C-terminus of KO.

**SOURCE:** The *CoralHue*<sup>®</sup> KO 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*<sup>®</sup> NP-KO (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

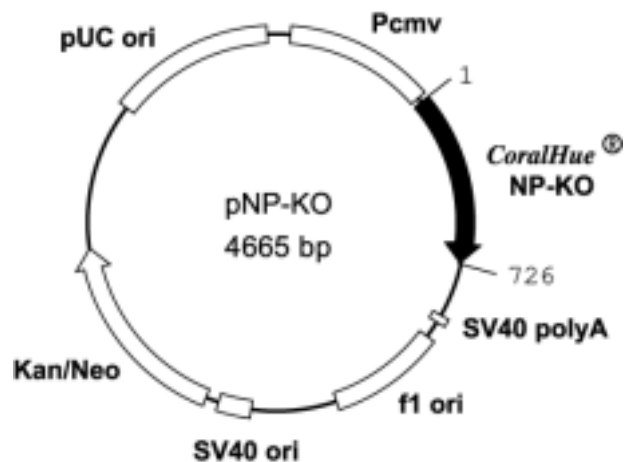
**INTENDED USE:** For research use only. Not for clinical or diagnostic use.

#### REFERENCES:

Karasawa, S., *et al. Biochem J.* **381**, 307-312 (2003)  
Miyawaki, A., *et al. Nature* **388**, 882-887 (1997)

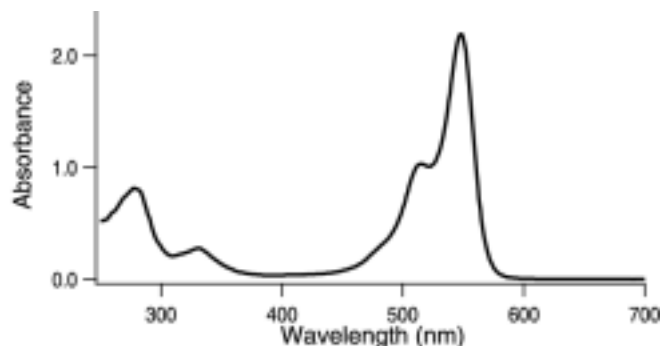
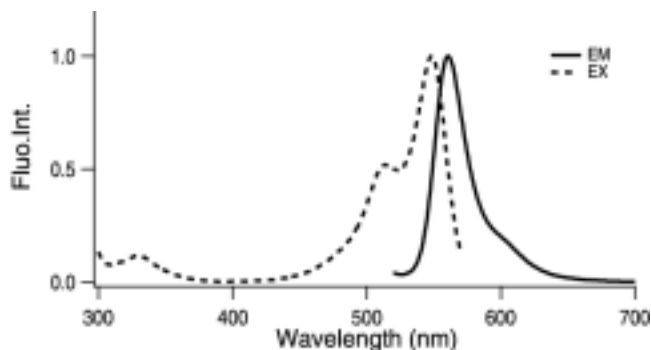
#### GenBank:

Accession Numbers: AB128819, AB128821



**CoralHue<sup>®</sup> NP-KO:** 241 amino acids

	Excit./Emiss.Maxima (nm)	Extinction Coefficient(M <sup>1</sup> cm <sup>-1</sup> )	Fluorescence Quantum Yield	pH sensitivity
KO	548/561	73,700 (548 nm)	0.45	pKa<5.0



**CoralHue<sup>®</sup> NP-KO DNA Sequence**

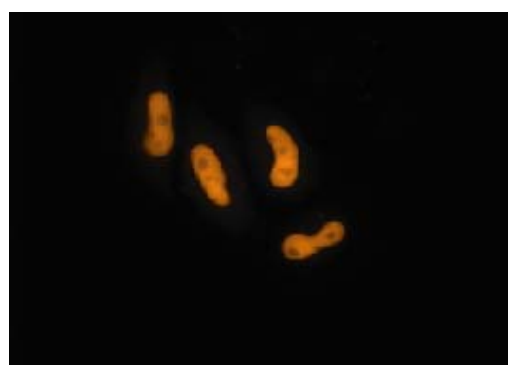
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 ATGGCCAAGGGCGGCCAATGCCTTTCTCGTTTGACTTAGTGTCAC  
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 GATACCAGACTATTTCAAACAAGCATTTCCTGAAGGCCTGTCATGG  
 GAAAGGTCGTTGCAGTTCGAAGATGGTGGGTTTCGCTGCCGTCAGTG  
 CGCATATAAGCCTTAGAGGAAACTGCTTCGAGCACAAATCCAAATT  
 TGTTGGGGTTAACTTTCTGCCGATGGTCCTGTGATGCAAAAACCA  
 AGTTCTGATTGGGAGCCATCAACCGAGAAAATTACTACCTGCGACG  
 GAGTTCTGAAGGTGATGTTACGATGTACCTAAAACTTCCGGGAGG  
 CGGCAATCACAAATGCCAATTCAAGACTACTTACAAGGCGGCAAAA  
 AAGATTCTTAAAATGCCACAAAGCCATTTTCATCGGGCATCGCCTCG  
 TCAGGAAAACCGAAGGCAACATTACTGAGCTGGTAGAAGATGCAGT  
 AGCTCATTGCGGATCCGGTGATGAAGTCGAAGGAGTGGAAGAAGTA  
GCTAAGAAGAAGAGTAAAAAGGAAAAGGATAAATAA

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

**CoralHue<sup>®</sup> NP-KO Amino Acid Sequence**

MVSV I KPEMKMKYFMDGSVNGHEFTVEGEGTGKPYEGHQEMTLRVT  
 MAKGGPMPFSFDLVSHSTFCYGHRPFTKYPEE I PDYFKQAFPEGLSW  
 ERSLQFEDGGFAAVSAHI SLRGNCFEHKS KFVGVNFPADGPVMQNN  
 SSDWEPSTEK I TTCDGV LKGDVTMYLKL AGGGNHKCQFKTTYKAAK  
 K I LKMPQSHF I GHRLVRKTEGNI TELVEDAVAHCGGGDEVEGVVEEV  
AKKKSKEKDK\*

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



**CoralHue<sup>®</sup> NP-KO expression in HeLa cells**

Fluorescent protein **CoralHue<sup>®</sup> NP-KO** used in this product was co-developed with the Laboratory for Cell Function and Dynamics, the Advanced Technology Development Center, the Brain Science Institute, and the Institute of Physical and Chemical Research (RIKEN) (lab head Dr. Atsushi Miyawaki).

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