

Fluorescent Protein Expression Plasmid

CoralHue[®]

Nucleoplasm-targeted humanized Kusabira-Cyan 1 (pNP-hKCyl1)

Code No.
AM-V0284M

Quantity
20 µg

BACKGROUND: This plasmid is designed for expression of Nucleoplasm-targeted **CoralHue[®]** humanized Kusabira-Cyan 1 (NP-hKCyl1) in mammalian cells. **CoralHue[®]** Kusabira-Cyan 1 (KCyl1; scientific name KCyl-G4219) generated from the wild-type KCyl from the stony coral whose Japanese name is "Kusabira-ishi". It absorbs light maximally at 453 nm and emits Cyan light at 486 nm. **CoralHue[®]** KCyl1 rapidly matures to form a fluorescent dimeric complex. **CoralHue[®]** KCyl1 can be used to mark cells or to report gene expression without problems stemming from protein aggregation. Targeting of h KCyl1 to the Nucleoplasm is achieved with the signal peptide fused to the C-terminus of KCyl1.

SOURCE: The **CoralHue[®]** Kusabira-Cyan 1 gene was originally cloned from the stony coral (*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-hKCyl1 (Including Stop Codon):
bases 1-738
CMV promoter: bases 4081-4653
SV40 polyA: bases 891-925
Kanamycin/Neomycin resistance gene: bases 1968-2759
pUC origin: bases 3348-3990
f1 origin: bases 988-1443
SV40 origin: bases 1784-1919

INTENDED USE:

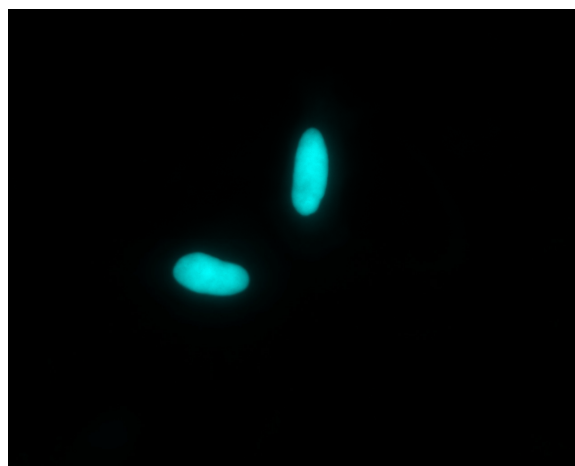
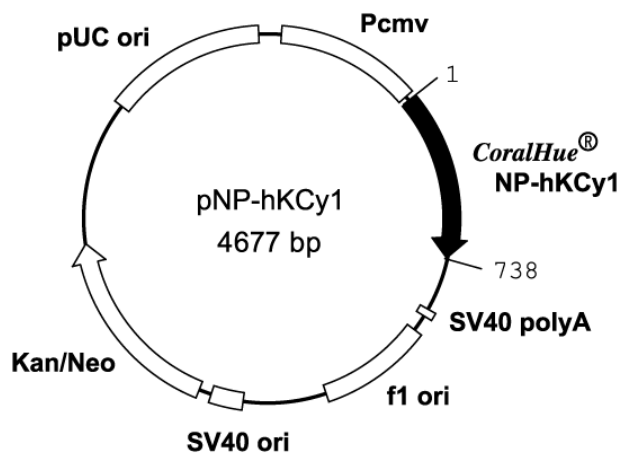
For Research Use Only. Not for use in diagnostic procedures.

REFERENCE:

Kikuchi A., *et al.*, *Biochemistry*. **48**, 5276-5283 (2009)

RELATED PRODUCTS:

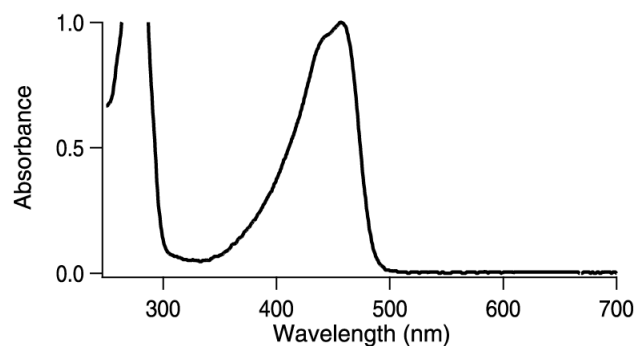
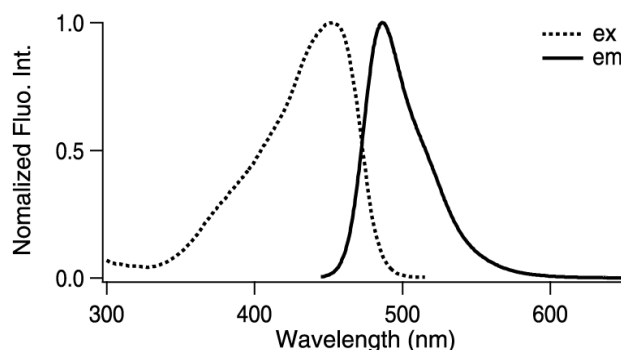
AM-V0171M **CoralHue[®]** Kusabira-Cyan 1 (pKCyl1-S1)



CoralHue[®] NP-hKCyl1 expression in HeLa cells.

CoralHue[®] KCy1: 221 amino acids (without NP signal sequence)

	Excit./Emiss.Maxima (nm)	Extinction Coefficient($M^{-1}cm^{-1}$)	Fluorescence Quantum Yield	pH sensitivity
KCy1	453/486	21,100 (486 nm)	0.8	$pK_a=5.3$



CoralHue[®] NP-hKCyl

1) DNA sequence

ATGGTGAGCGTGATCAAGCCGAGATGAAGATGAGGTATTACAT
GGACGGCAGCGTGAACGGCCACGAGTTCACCGTGGAGGGCGAGG
GCACCGGACGGCCCTACGAGGGCAAGCACAAGATCACCTGGAC
GTGACCAAGGGCGGCCCTGCCCTTCGCCTTCGACCTGCTGAG
CACCGTGTTCAGCTACGGCAACAGGGCCCTGACCAAGTACCCCG
ACGACATCCCGACTACTTCAAGCAGTGCTTCCCGGGCGGCTAC
TCCTGGGAGAGGAAGTTCGAGTTCGAGGACGGCGGCTGGCCAT
CGCCAAGGCCGAGATCAGCCTGAAGGGCAACTGCTTCGAGCACA
AGAGCAGCATCGAGGGCACCTTCCCGACAGCAGCCCATCATG
CAGAACAAGACCCTGGGCTGGGAGCCCAGCACCGAGAAGATGAC
CGTGAGGGACGGAAGCATGAAGGGCGACGACGGCCCTACCTGA
AGCTGGTGGGCGGCGCAACCACAAGTGCTACTTCACCACCACC
TACACCGCCAAGAAGAAGATCCCAACCTGCCGGCAGCCACTT
CATCGGCCACAGGATCAGCAGCGTGGTGGAGGGCACCAGATCA
AGGTGATGGAGGACGCCATGGCCACCTGTACCCCTTCAACGGC
TCGGGATCCGGTGATGAAGTGAAGGAGTGAAGAAGTAGCTAA
GAAGAAGAGTAAAAAGGAAAAGGATAAAAAG

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

2) Amino acid sequence

MVSVIKPEMKMRYMDGSVNGHEFTVEGEGTGRPYEGKHKITLD
VTKGGPLPFAFDLLSTVFSYGNRALTKYPDDIPDYFKQCFPGGY
SWERKFEFEDGGLAIAKAEISLKGNCFEHKSTIEGTFPDSSPIM
QNKTLGWEPSTEKMTVRDGSMSKGDAAAYLKLVGSGNHKCYFTTT
YTAKKIPNLPESHFIGHRISSVVEGTKIKVMEDIAIAHLYPFNG
SGSGDEVEGVVEVAKKSKKEKDKK

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

CoralHue[®] NP-hKCyl 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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