

## *pHIS2*

PVT4037      2ug

Lot no 1901093

Store at -20°C

Expiry date June.2020

### **pHIS2 Information**

Promoters: TRP1, T7, T3

Replicon: pUC ori, FI ori

Plasmid classification: yeast series, yeast one hybrid vector

Plasmid size: 7207bp

Prokaryotic resistance: Kan

Selection marker: TRP1

Clone strain: DH5 alpha

Culture conditions: 37 LB, aerobic

Host cells: yeast cells

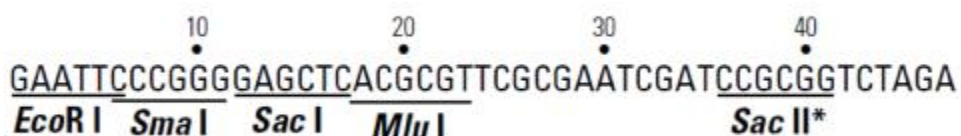
Primers for 5' sequencing: M13F:TGTAAAACGACGGCCAGT

Primers for 3' sequencing: primers were designed according to the sequence

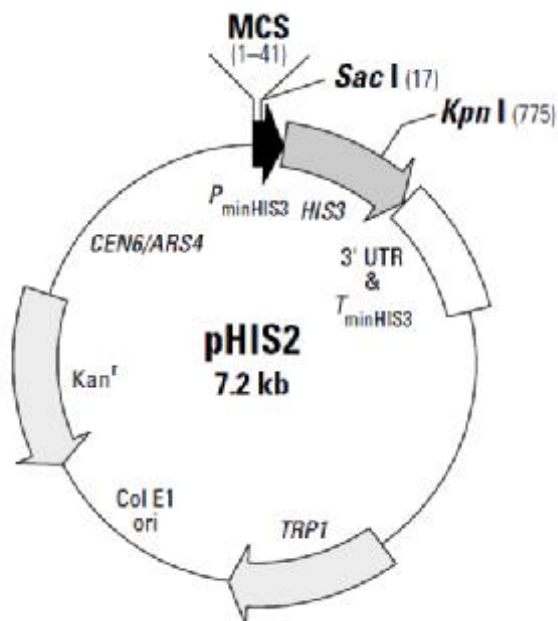
Use: Yeast expression

### **pHIS2 Description**

pHIS2 is a reporter vector that can be used in yeast one-hybrid assays to identify and characterize DNA-binding proteins. The vector was specifically designed for use with the BD Matchmaker™ One-Hybrid Library Construction & Screening Kit (#K1617-1). It contains a HIS3 nutritional reporter gene, located downstream of a multiple cloning site (MCS) and the minimal promoter of the HIS3 locus (P<sub>minHIS3</sub>). Cis-acting DNA sequences, or DNA target elements, can be inserted into the MCS and used as baits to screen GAL4 AD/cDNA fusion libraries for proteins that interact with the target sequence. A protein-DNA (or one-hybrid) interaction can be detected by performing the assay in a yeast strain such as Y187 that is auxotrophic for histidine. Positive one-hybrid interactions drive expression of the HIS3 reporter gene, which enables the host cell to grow on histidine-deficient media.



pHIS2 Map



pHIS2 Sequences

LOCUS Exported 7207 bp ds-DNA circular SYN 23-Feb-2016

DEFINITION synthetic circular DNA

ACCESSION .

VERSION .

KEYWORDS Untitled 4

SOURCE synthetic DNA construct

ORGANISM synthetic DNA construct

REFERENCE 1 (bases 1 to 7207)

AUTHORS .

TITLE Direct Submission

JOURNAL Exported 2016-2-23 from SnapGene Viewer 3.0.3

## Manual

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FEATURES	Location/Qualifiers
source	1..7207  /organism="synthetic DNA construct"  /mol_type="other DNA"
CDS	152..814  /codon_start=1  /gene="S. cerevisiae HIS3"  /product="imidazoleglycerol-phosphate dehydratase, required for histidine biosynthesis"  /note="HIS3"  /note="yeast auxotrophic marker"  /translation="MTEQKALVKRITNETKIQIAISLKGGLAIEHSIFPEKEAEA  QATQSQVINVHTGIGFLDHMIIHALAKHSGWLSLIVECIGDLHIDDHHTTED  CGIALGQAF  KEALGAVRGVKRFGSGFAPLDEALSRAVVDLSNRPYAVVELGLQREKVG  LSCMIPHF  LESFAEASRITLHVDCLRGKNDHHRSESAFKALAVAIREATSPNGTNDVPS  TKGVLM"
promoter	2576..2857  /gene="S. cerevisiae TRP1"  /note="TRP1 promoter"
CDS	2858..3532  /codon_start=1  /gene="S. cerevisiae TRP1"

/product="phosphoribosylanthranilate isomerase, required  
for tryptophan biosynthesis"  
  
/note="TRP1"  
  
/note="yeast auxotrophic marker"  
  
/translation="MSVINFTGSSGPLVKVCGLOSTEAAECALDSDADLLGIICV  
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QLHGDES  
  
WQEYQEFLGLPVIKRLVFPKDCNILLSAASQKPHSFIPLFDSEAGGTGELLD  
WNSISDW  
  
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NKIANFVKNA  
  
KK"  
  
promoter complement(3614..3632)  
  
/note="T3 promoter"  
  
/note="promoter for bacteriophage T3 RNA polymerase"  
  
primer\_bind complement(3653..3669)  
  
/note="M13 rev"  
  
/note="common sequencing primer, one of multiple similar  
variants"  
  
protein\_bind 3677..3693  
  
/bound\_moiety="lac repressor encoded by lacI"  
  
/note="lac operator"  
  
/note="The lac repressor binds to the lac operator to  
inhibit transcription in E. coli. This inhibition can be

relieved by adding lactose or  
isopropyl-beta-D-thiogalactopyranoside (IPTG)."

promoter      complement(3701..3731)  
  
/note="lac promoter"  
  
/note="promoter for the E. coli lac operon"

protein\_bind    3746..3767  
  
/bound\_moiety="E. coli catabolite activator protein"  
  
/note="CAP binding site"  
  
/note="CAP binding activates transcription in the presence  
of cAMP."

rep\_origin      complement(4055..4643)  
  
/direction=LEFT  
  
/note="ori"  
  
/note="high-copy-number ColE1/pMB1/pBR322/pUC origin of  
replication"

CDS              complement(4814..5608)  
  
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/gene="aph(3')-II (or nptII)"  
  
/product="aminoglycoside phosphotransferase from Tn5"  
  
/note="NeoR/KanR"  
  
/note="confers resistance to neomycin, kanamycin, and G418  
(Geneticin(R))"

## Manual

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VADRYODIA GLAPAE L FARLKASMPDGEDLVVTHDDACL PNIMVENGRFSGFIDCGRLG  
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autonomously replicating sequence"

rep\_origin complement(6564..7019)  
/direction=LEFT  
/note="f1 ori"  
/note="f1 bacteriophage origin of replication; arrow  
indicates direction of (+) strand synthesis"

primer\_bind 7164..7180  
/note="M13 fwd"  
/note="common sequencing primer, one of multiple similar  
variants"

promoter 7187..7205

/note="T7 promoter"

/note="promoter for bacteriophage T7 RNA polymerase"

ORIGIN

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## Manual

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//

Caution

Product is for research use only!