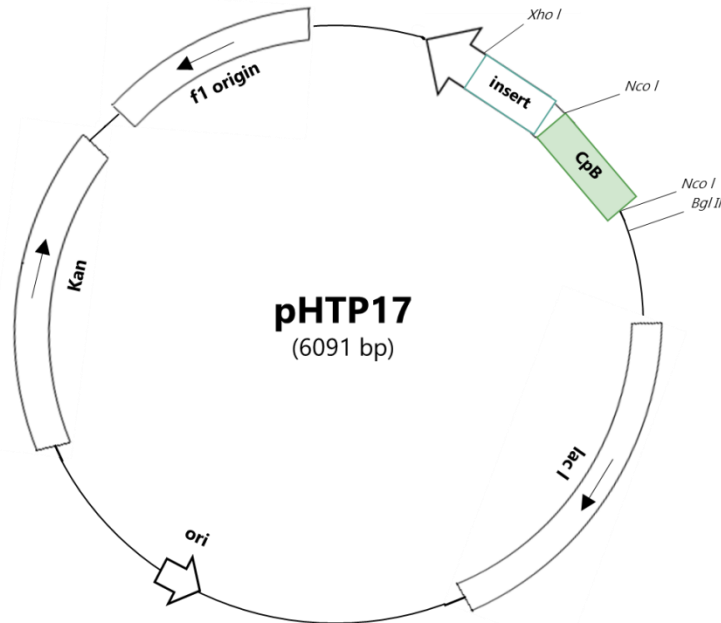


pHTP17 Expression Vector

pHTP17 was designed for the cloning and expression of high-levels of recombinant proteins in *Escherichia coli*. Recombinant proteins are expressed in fusion with a *Ruminococcus flavefaciens* cellulosomal protein (CpB), which is able to *promote solubility* and folding of fusion partners. This vector, included in the portfolio of NZYtech pHTP expression vectors, is part of the NZYEasy Cloning & Expression System. pHTP17 contains two poly-histidine (6xHis) sequences (N- and C-terminal) which allow subsequent recombinant protein purification by immobilized metal ion affinity chromatography (IMAC).

1. Vector Map



pHTP17 Cloning/Expression Region

<i>Nco I</i>	CpB	750bp	<i>Nco I</i>	His-Tag
CCATGGG GTGTCAAAAAGGAAACTCCTAACCTC		.750bp.	TCAAAGATATTCAATACAGCAACTG CCATGGG	CAGCAGCCATCATCATCATCACAGCAGCGGC
MetGlyValLysLysGluThrProAsnLeu		.250aa.	SerLysIlePheAsnThrAlaThrAlaMetGlySerSer	HisHisHisHisHisHisSerSerGly
CCTCAGCAAGGGCTGAGG		/	CCTCAGCTTCCGCTGAGGTCCGTCGACAAGCTTGC	GGCCGCA CTCGAGCACCACCACCACCACCAC TGAGATCCGGCTGCT
ProGlnGlnGlyLeuArg		/	ProGlnLeuProLeuArgSerValAspLysLeuAlaAlaAlaLeuGlu	HisHisHisHisHisHis*

⌘ Represents the site where the gene will be inserted.

Note 1: For correct expression, inserted gene needs to be in frame with pHTP17 5' gene sequence. Inserts correctly cloned into pHTP17 will maintain reading frames starting on the ATG codon.

Note 2: CpB is a recombinant cellulosomal protein (Cp) that is highly expressed in *E. coli*.

2. Vector Sequence (6091 bp)

TGGCGAATGGGACGCGCCCTGTAGCGGCGCATTAAAGCGCGGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCAGCGCCCTAGCGCCCGCTCCTTTCCGCTTTCCTCCCT
 TCCTTTCTCGCCACGTTTCGCGGCTTTCCCGTCAAGCTCTAAATCGGGGCTCCCTTAGGGTTCCGATTAGTGTCTTACGGCACCTCGACCCAAAAAAGTTGATTAGGGTGATG
 GTTACAGTAGTGGCCATCGCCGTAGATAGCGGTTTTTCGCCCTTTGACGTTGGAGTCCAGTCTTTAATAAGTGGACTCTTGTCCAAACTGGAACAACACTCAACCTATCTCGGT
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 TCGCTGTTAAAAAGGACAATTACAACAGGAATCGAATGCAACCGGCGCAGGAACACTGCCAGCGCATCAACAATATTTTACCTGAATCAGGATATCTTCTAATACCTGGAATGCTG
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 TTGTTTCATGACAAAAATCCCTTAACGTGAGTTTTCGTTCCACTGAGCGTACAGCCCGTAGAAAAAGATCAAAGGATCTTCTTGTAGATCTTTTTTCTGCGCGTAATCTGTGCTTGC
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 CAGCGAAGCGGCTTCCGCGAAATGACCCAGAGCGCTCGCGCACCTGTCCTACGAGTGTGATGATAAAGAGACAGTATAGTTCGCGCAGCATGATGATGCCCGCGCCACC
 GGAAGGAGCTGACTGGTGAAGGCTCTCAAGGCATCGGTCGAGATCCCGGTGCCATAGTGTGAGTGAAGTACATTAATGCGTTCGCGCTCACGCGCCCTTCCAGTCCGGAA
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 AGCGCTCATGAGCCGAAGTGGCGAGCCGATCTTCCCATCCGCTGATGTCGCGGATATAGGCGCCAGCAACCCGACCTGTGGCGCGGTTGATCCCGCCAGTGCCTCCGCGTAG
 AGGATCGAGACTCTCGATCCCGGAAATTAATACGACTCACTATAGGGGAATTTGAGCGGATAAACAATCCCTCTAGAAATAATTTGTTTAACTTTAAGAAAGGAGATATA**CCATGG**
TGTCAAAAAGGAAACTCCTAACCTCATTTCTTAAAGGAAAGGAAATGGAGTATACAGGTTTCCCTTCAGGAACTTATCGAAGCAGGCAAGGCTTCGGGCGGTAACCTTCAGTATAAG
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CGCTGAGGTCGTCACAAGCTTGGCGCGCACTCGAGCACCACCACCACCAC TGAGATCCGGCTGCTAACAAAGCCCGAAAGGAAGCTGAGTTGGCTGCTGCCACCGCTGAGCA
 ATAAC**TAGCATA**AAACCCCTTGGGGCCCTTAACCGGCTT**TAGAGGGTTTTTTGCT**GAAAGGAGGAACTATATCCCGAT

pHTP17 sequence landmarks:

- **T7 promoter:** in gray
- **First ATG (methionine):** in yellow
- **CpB gene:** in green
- **His*Tag coding sequences:** in purple
- **Cloning region:** ✂
- **T7 terminator:** in dark gray
- **Sequencing primers (T7 universal and T7 terminator):** underlined
- **BglII, NcoI & XhoI recognition sites:** in bold

Sequence added to the final recombinant protein (30.24 kDa):

MGVKKETPNLILPKGKEMEYTGSLQELIEAGKASGGTLQYKIGENGEWSEKIPTAAEVGDYTVYYRVVGNKYGGADTDADIKGRKNYSFPYCYDCQRNPAHP
 SKGESCRAYQLKEPLIGDRVFGKNI IKGNWTMEYVSAYKDFESPYSKYLIGLVEKTEADSLSTPDDISIELKRDGEHNSYGVVIAVSEGENELLYFGDTIKY
 GGGYILSKEAISDSKTFVIEKDLKEIIVETVKLSGTVNSKIFNTATAMGSSHHHHHHSSGPQQLR