

**A gene for dnaB like protein in chlamydial plasmid**

K.S.Sriprakash\* and E.S.MacAvoy

Menzies School of Health Research, Darwin, Northern Territory, Australia  
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The *dnaB* gene of *Escherichia coli* codes for a protein essential in the initiation and elongation of DNA replication. *Chlamydia trachomatis*, an obligate intracellular parasite which causes ocular and genital infections in man, has a 7.5kb plasmid (pCTT1). Examination of the complete nucleotide sequence (1) revealed nine open reading frames. The derived amino acid sequence of one of the ORFs (ORF3) shows a 28% sequence identity (underlined) to the *E.coli* *dnaB* protein. The ORF3 product is 73 amino acids shorter than the *E.coli* *dnaB* protein. A conserved ATP binding domain is present in the ORF3 (double underlined). However, when a *dnaB* mutant of *E.coli* was transformed with a recombinant plasmid containing pCTT1, no complementation was observed.

r . b . s .

CCTATCCGCAAAATGTCCTGATTAGTGAATAATCAGGTTGTTAACAGGATAGCACGCTCGGTTATTTTTTATATAAAACATGAAAACCTGTTCCGAAATA  
M K T R S E I

GAAAATCGCATGCAAGATATCGAGTATGCGTGTGTTAGGTAAGCTCTGATATTTGAAGACTCTACTGAGTATATTTCTGAGGCAGCTTGCTAATTATGAGT  
 E N R M Q D I E Y A L L G K A L I F E D S T E Y I L R Q L A N Y E

TTAAGTGTCCCATCATAAAACATATTCATAGTATTTAAATACTTAAAGACAATGGATTACTATAACTGTAGACTCGGCTTGGGAAGAGCTTTTGGC  
F K C S H H K N I F I V F K Y L K D N G L P I T V D S A W E E L L R

GGTCGTATCAAAGATAGGACAATCGTATCTCGGGTTAATGTCATGATGCTTTATCAAATGACAAGCTTAGATCCGTTTCTCATACGGTTTTCCCTC  
R R I K D M D K S Y L G L M L H D A L S N D K L R S V S H T V F L

GATGATTTGAGCGTGTGAGCGCTGAAGAAAATTTGAGCAATTTCTTTCCGCTCGTTTAAATGAGTACAATGAAAATCCATTGCGTAGATCTCCGTTTC  
D D L S V C S A E E N L S N F I F R S F N E Y N E N P L R R S P F

TATTGCTTGAGCGTATAAAGGGAAGCTTGTATAGTCTATAGCAAAGACTTTTTCTATTGCGAGCGTAGAGGCGGCTATTATGATATATTTCTACA  
 L L L E R I K G R L D S A I A K T P S I R S A R G R S I Y D I F S Q

GTCAGAAATGGAGTGTGCTGGCTGATATAAAAAAAGACGAGCAGCGTTCTCTGAGAATCAAATTTCTTTGATGGCTTCCCAACAGGATACAAGGAT  
S E I G V L A R I K K R R A A F S E N Q N S P F D G F P T G Y K D

ATTGATGATAAAGGAGTTATCTTAGCTAAAGGTAATTTCTGATTATAGCAGCTAGGCCATCTATAGGAAAACAGCTTTAGCTATAGACATGGCGATAA  
I D D K G V I L A K G N F V I I A A R P S I G K T A L A I D M A I

ATCTTGGGTTACTCAACAGCGTAGAGTTGGTTTCTATCTAGAAAATGAGCGCAGGTCAAATTTGAGCGGATTTGCTAATTTAACAGGAATAC  
N L A V T Q Q R R V G G F L S L E M S A G Q I V E R I V A N L T G I S

TGGTGAATAAATACAAGAGGGGATCTCTCTAAAGAAGAAATTTCCGAGTGAAGAAGCTGGAGAAACAGTTAGAGAATCACATTTTATATCTGCAGT  
G E K L Q R G D L S K E E L F R V E E A G E T V R E S H F Y I C S

GATAGTCAGTATAAGCTTAATTTAAATCGCGAATCAGATCCGGTTGCTGAGAAAAGAAGATCGAGTAGACGTAATATTTATCGATTACTGCAGTTGATCA  
D S Q Y R K L N L I A N Q I R L L R K E D R V D V I F I D Y L Q L I

ACTCATCGGTTGGAGAAAATCGTCAAATGAAATAGCAGATATATCTAGAACCTTAAGAGTTTACGCTCAGAGCTAAACATCTCTATAGTTTGTATC  
N S S V G E N R Q N E I A D I S R T L R G L A S E L N I P I V C L S

CCAACATCTGAAAAAGTTGAGGATAGAGCAAAATAAGTTCCATGCTTTCAGATTTGGCAGACAGCGGTCAAATAGAGCAAGACCGAGATGTGATTTGT  
Q L S R K V E D R A N K V P C F Q I C E T A V K \*

\*To whom correspondence should be addressed at: Menzies School of Health Research, PO Box 41096, Casuarina NT 5792, Australia

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