Nucleotide sequence of the *Salmonella typhimurium* *himA* gene

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Submitted September 29, 1989 EMBL accession no. M27279

Integration host factor (IHF) is a small basic DNA binding protein of bacteria involved in numerous biochemical pathways (1). IHF bends linear DNA (2) and is proposed to organize supercoiled DNA into an interwound branched form called a superloop (3). The *Salmonella typhimurium himA* gene was cloned from a strain carrying a closely linked "locked-in" MudP prophage (4). Like *E. coli* K12 *himA* (5), *Salmonella Lt2 himA* is in an operon with the *pheT* gene. It differs from the K12 gene at 9 neutral third codon positions and 3 base pair differences result in amino acid substitutions (underlined). The coding strand is shown with the predicted amino acid sequence below.

\[\begin{align*}
\text{pheT} & \quad -60 \quad \text{TCGCCAAATGTTAGAGCCATTAAAGAGCGATCCAGGACATCATGAGGATTTGAACCT} \\
& \quad \text{ValAlaLysCysValAlaLeuLysGluPheGlnAlaSerLeuArgAspEnd} \\
& 1 \quad \text{ATGGCGCTTACAAAAGCTGAAATGTCAGAATATCTGTTTGATAAGCTTGGGCTTAGCAAG} \\
& \quad \text{MetAlaLeuThrLysAlaGluMetSerGluTyrLeuPheAspLeuGlyLeuSerLys} \\
& 61 \quad \text{CGGGATGCCAAAGAACTGGTTGAACTGTTTTTCGAAGAGATCCGTCGTGCTCTGGAAAAC} \\
& \quad \text{ArgAspAlaLysGluLeuValGluPheGluIleArgAlaLeuGluAsn} \\
& 121 \quad \text{GGTGAACGGGTGAACTCTCTGTTTGATATCTCTGGTCTGCTGATAAAAAATCAACGT} \\
& \quad \text{GlyGluGlnValLysSerGlyPheGlyAsnPheGlyLeuArgAspLysAsnGlnArg} \\
& 181 \quad \text{CGGGGCCTGTAACCCGAAAACGGGTGAGATATTCTATTACACCCGCGCGGCTCTGACC} \\
& \quad \text{ProGlyArgAsnProLysThrGluAspIleProLysThrArgAlaArgValValThr} \\
& 241 \quad \text{TTCCAGCCGCCAATAAGTTAAAGACCGCGGCTGAGGCCTCAGGCCAAAGAAGAGATTA} \\
& \quad \text{PheArgProGlyGlnLysLeuLysSerArgValGluSerAlaSerProLysGluGluEnd} \\
& 301 \quad \text{TCAGATCCACCCATAATCCATCAGGTTGATTGCGGCGATACCGCTGCCTACCCGAAAG} \\
\end{align*}\]

Acknowledgement

This work was supported by NIH grant GM33143 (N.P.H.) and the Howard Hughes Medical Institute (D.H.). We thank Maren Marsh for initial screening of the MudP locked-in library.

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References