The uridine phosphorylase (udp) gene from *E. coli* has been localized on a recombinant plasmid, pVMK27 (1). Sequencing of this gene was performed by the Sanger chain termination method (2) on both strands of a 2,480 bp *EcoRI*-HincII fragment derived from pVMK27 cloned into the phagemid cloning vector pBS+ (Stratagene, San Diego, CA). The sequence revealed an open reading frame (ORF) of 759 bases which codes for a polypeptide of 253 amino acids (Mr 27,162 Da). The identity of this ORF as the udp gene was confirmed by N-terminal amino acid analysis of purified uridine phosphorylase (UDP).

Fig.1 shows that distal to the coding region is a DNA sequence (underlined) which may form a hairpin loop (-11.8 kcal/mol) thereby causing transcription termination or pausing at this site. A putative ribosome binding site is shown (asterisks) at nucleotides 152-155 (Fig.1).

Previous reports on UDP from *E. coli* have suggested that this enzyme has 4-fold (3), 6-fold (4) or 8-fold (5) symmetry. These sequence data support the conclusion that UDP is a hexamer, composed of six identical subunits with an aggregate Mr of 162,972 Da.