Cloning of two distinct copies of human phosphoribosylpyrophosphate synthetase cDNA

Blake J.Roessler, George Bell[1], Steven Heidler[1], Steven Seino[1], Michael Becker[1] and Thomas D.Palella

Multipurpose Arthritis Center, Rackham Arthritis Research Unit and the Department of Internal Medicine, University of Michigan Medical School, Ann Arbor, MI 48109 and [1]University of Chicago and the Howard Hughes Medical Institute, Chicago, IL 60637, USA

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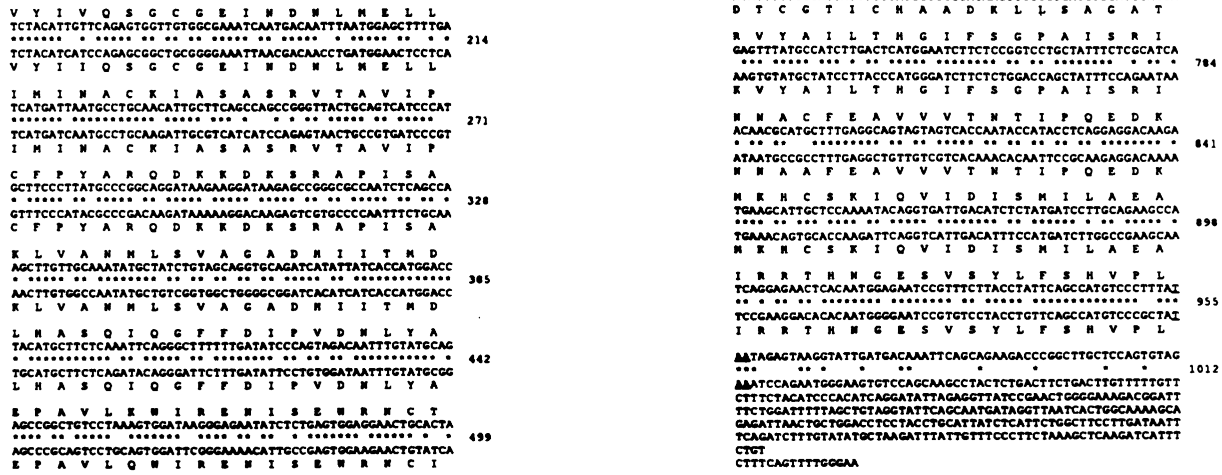
Phosphoribosylpyrophosphate synthetase (PRS) catalyzes the phosphoribosylation of ribose 5-phosphate to 5-phosphoribosyl-1-pyrophosphate (PRPP), which is necessary for the *de novo* and salvage pathways of purine, pyrimidine and pyridine biosynthesis (1). In the rat, two nearly identical cDNA transcripts (PRS I and PRS II) have been cloned (2). Additionally, a human cDNA homologous to the rat PRS II cDNA has been cloned (3). We report the isolation of a human PRS cDNA homologous to rat PRS I and confirm the nucleotide sequence of an independently isolated human PRS II cDNA. Published rat cDNA sequences were used to design flanking oligonucleotide primers, and a partial length human PRS cDNA probe was generated from human lymphoblast mRNA by the polymerase chain reaction (4). Human PRS I was isolated from lymphoblast cDNA libraries cloned into lambda gt10. Human PRS II was isolated from human kidney cell cDNA libraries cloned into lambda gt10. Both human PRS I and PRS II cDNA were sequenced by the Sanger method (5).



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