Practical Methods for Biocatalysis and Biotransformations 2

Editor(s): John Whittall, Peter W. Sutton

Print ISBN: 9781119991397
Online ISBN: 9781119943426
DOI: 10.1002/9781119943426

Enzymatic Synthesis of 5-methyluridine by Transglycosylation of Guanosine and Thymine.

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5-Methyluridine (5-MU) is an intermediate in the synthesis of β-thymidine and the antiretroviral drugs stavudine (d4T) and zidovudine (AZT) 1-3. The enzymatic preparation of 5-MU involves transglycosylation 4-6 and avoids the formation of unwanted isomers. The overall transglycosylation reaction effectively converts one nucleoside into another through exchange of the heterocyclic base in the presence of nucleosidephosphorylases.