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## Partial Purification of a Thymidine Phosphorylase from Human Gastric Cancer\*

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We found that a thymidine phosphorylase (TP) activity is greatly enhanced in human tumors as compared with normal tissues and we assumed that the activity is responsible for the *in vivo* conversion of 5'-deoxy-5-fluorouridine (5'-DFUR) and 1-(tetrahydro-2-furanyl)-5-fluorouracil (Tegfur) to 5-fluorouracil (5-FU). 5'-DFUR and Tegafur are antitumor agents, and their activities are manifested after cleavage to 5-FU, an activated form.

A TP preparation was partially purified from human gastric cancer (poorly differentiated adenocarcinoma). The specific activity of the final preparation represented a 379-fold purification of the 7000 g supernatant of tissue homogenate. The phosphorolytic activities toward thymidine (dThd), 5'-DFUR, and Tegafur remained closely in parallel during the whole purification procedure. The results provide evidence in support of the above assumption. The values of  $K_m$  of the TP preparation were  $1.68 \times 10^{-4}M$ ,  $1.72 \times 10^{-3}M$ ,  $1.33 \times 10^{-2}M$ , and  $4.76 \times 10^{-2}M$  for dThd, 5'-DFUR, Tegafur, and uridine, respectively.

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