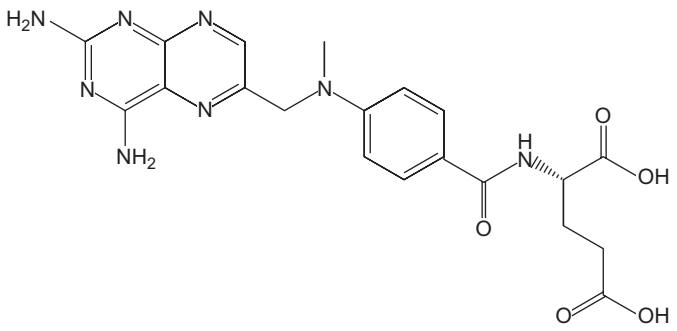
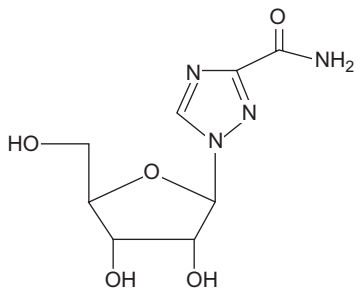


Methotrexate

c. Origins of ribavirin

Ribavirin was discovered by synthesizing analogues of compounds participating in the pathways of nucleotide biosynthesis. In designing, synthesizing, and testing a variety of analogues of intermediates in nucleotide biosynthetic pathways, the result was the discovery of ribavirin, also known as virazole (19,20). Ribavirin is the standard of care used for treating hepatitis C virus (HCV) infections.



Ribavirin

d. Origins of paclitaxel

Paclitaxel (Taxol®), an anti-cancer drug, was discovered in extracts of the Pacific yew tree, *Taxus brevifolia*. In 1963, a crude extract from Pacific yew bark was found to have activity against tumors in experimental animals (21). In 1991, the active component, paclitaxel, was approved by the FDA as an anti-cancer drug. Paclitaxel, which is in a class of drugs

[19] Witkowski JT, Robins RK, Sidwell RW, Simon LN. Design, synthesis, and broad spectrum antiviral activity of 1-beta-D-ribofuranosyl-1,2,4-triazole-3-carboxamide and related nucleosides. *J Med Chem*. 1972;15:1150–1154.

[20] Te HS, Randall G, Jensen DM. Mechanism of action of ribavirin in the treatment of chronic hepatitis C. *Gastroenterol Hepatol*. 2007;3:218–225.

[21] Socinski MA. Single-agent paclitaxel in the treatment of advanced non-small cell lung cancer. *Oncologist*. 1999;4:408–416.