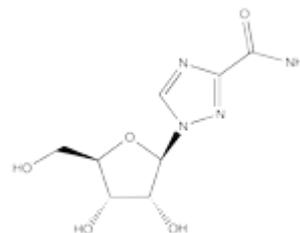




Product Name : RIBAVIRIN



Product Description : Ribavirin is an anti-viral drug indicated for severe RSV infection (individually), hepatitis C infection (used in conjunction with peginterferon alfa-2b or peginterferon alfa-2a), and other viral infections. Ribavirin is a prodrug, which when metabolized resembles purine RNA nucleotides. In this form it interferes with RNA metabolism required for viral replication. Ribavirin is active against a number of DNA and RNA viruses. It is a member of the nucleoside antimetabolite drugs that interfere with duplication of viral genetic material. Ribavirin is active against influenzas, flaviviruses, and agents of many viral hemorrhagic fevers. Ribavirin is the only known treatment for a variety of viral hemorrhagic fevers, including Lassa fever, Crimean-Congo hemorrhagic fever, Venezuelan hemorrhagic fever, and Hantavirus infection. This drug is also used to control the life span of enterovirus 71 which causes hand, foot, and mouth disease. Ribavirin's carboxamide group can make the native nucleoside drug resemble adenosine or guanosine, depending on its rotation. For this reason, when ribavirin is incorporated into RNA, as a base analog of either adenine or guanine, it pairs equally well with either uracil or cytosine, inducing mutations in RNA-dependent replication in RNA viruses. Such hypermutation can be lethal to RNA viruses. Ribavirin 5'-monophosphate inhibits cellular inosine monophosphate dehydrogenase, thereby depleting intracellular pools of GTP. This mechanism may be useful in



explaining the drug's general cytotoxic and anti-DNA replication effect (i.e. its toxicity) as well as some effect on DNA viral replication. Ribavirin is an inhibitor of some viral RNA guanylyl transferase and (guanine-7N-)-methyl transferase enzymes, and this may contribute to a defective 5'-cap structure of viral mRNA transcripts and therefore inefficient viral translation for certain DNA viruses, such as vaccinia virus (a complex DNA virus). Any difference between cellular and viral enzyme handling of ribavirin-containing mRNA transcripts is a potential mechanism of differential inhibition of ribavirin to translation of mRNAs from viruses (including DNA viruses). Finally, ribavirin is known to enhance host T-cell-mediated immunity against viral infection through helping to switch the host T-cell phenotype from type 2 to type 1.

Chemical Formula :

1-[(2R,3R,4S,5R)-3,4-dihydroxy-5-(hydroxymethyl)oxolan-2-yl]-1H-1,2,4-triazole-3-carboxamide

CAS No : 36791-04-5

Molecular Formula : C₈H₁₂N₄O₅

Molecular Weight : 244.206