CHAPTER 13

Cobicistat and Ritonavir as Pharmacoenhancers for Antiviral Drugs

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13.1 Introduction

During the past half century, there have been significant advances in the development of effective antiviral drugs, and many of these drugs have played key roles in the treatment of viral-infected patients. Great progress has been made in the discovery and development of therapies to treat human immunodeficiency virus (HIV) infection, and also significant improvement in the mortality and morbidity of HIV-infected patients. However, resistance development remains a major obstacle to antiviral therapy and all active antiviral agents have been shown to select for resistance mutations. Resistance evolution is a particular problem under conditions of suboptimal therapy. Studies have shown that an adequate trough concentration at the target site, usually several-fold above its protein-adjusted, effective inhibitory concentration EC_{90} or EC_{95}, corresponds to achieving sustained efficacy and preventing the emergence of resistance. Unfortunately, many drugs need to be dosed frequently and at high dose levels to achieve the targeted trough concentrations, which presents challenges for patients, especially in cases of chronic treatment. High pill burden and dosing frequency result in low adherence to a regimen and,

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