

Telaprevir (*Incivek*)

Discontinued. This treatment has been discontinued.

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Drug Summary

Although telaprevir was a promising direct-acting antiviral agent that had impact in the hepatitis C treatment field during 2011 to 2013, it was subsequently replaced by newer direct-acting antiviral agents that were more effective, better tolerated, and more convenient. Based on the dwindling role of telaprevir after newer direct-acting antiviral agents were approved, Vertex pharmaceuticals discontinued the sales and distribution of telaprevir in the United States in October 2014. Telaprevir does have some current importance since persons who previously failed a telaprevir-based regimen may have developed resistant associated variants, which could potentially impact subsequent therapy.

Class and Mechanism

Telaprevir (*Incivek*) is a NS3/4A hepatitis C protease inhibitor. Specifically, telaprevir inhibits the proteolytic cleavage of the HCV encoded polyprotein, an essential step in the viral life cycle for the production of mature forms of the viral proteins NS4A, NS4B, NS5A, and NS5B.

Manufacturer for United States

Telaprevir (*Incivek*) is no longer manufactured in the United States. Telaprevir ([Figure 1](#)) was previously manufactured by Vertex Pharmaceuticals. Vertex pharmaceuticals discontinued the sales and distribution of telaprevir in the United States in October 2014, primarily due to available alternative treatments and diminishing market demands. The drug telaprevir was formerly known as VX-950 and was co-developed by Vertex Pharmaceuticals and Johnson & Johnson.

Cost and Medication Access

In 2014, Vertex Pharmaceuticals discontinued its sales of telaprevir in the United States.

Adverse Effects

The most significant adverse effects reported in the main registration trials and in post-marketing experience were rash, anorectal complaints, and anemia. When comparing triple therapy of telaprevir, peginterferon, and ribavirin with dual therapy of peginterferon and ribavirin alone significant differences were noted with rash (56% versus 34%), anemia (36% versus 17%), and anorectal complaints that include anorectal discomfort, anal pruritus, and hemorrhoids (29% versus 7%). In most cases, the rash that develops is eczematous or maculopapular in character and mild to moderate in severity; the rash is typically manageable with good skin care and topical emollients or corticosteroids. In some instances, however, telaprevir has caused serious skin rashes, including Steven's Johnson Syndrome (SJS), Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS), and Toxic Epidermal Necrolysis (TEN). Telaprevir has a black box warning for fatal and non-fatal serious skin reactions.

Key Drug Interactions

Telaprevir is a strong inhibitor of cytochrome p450 3A4 (CYP3A) and can also inhibit p-glycoprotein (P-gp), OATP1B1, and OATP2B1. Accordingly, when used concomitantly, telaprevir can have a significant impact on plasma concentrations of drugs that are metabolized by CYP3A, P-gp, OATP1B1, or OATP2B1. In addition, telaprevir is primarily metabolized by CYP3A. The coadministration of telaprevir with drugs that induce or inhibit CYP3A4/5 could decrease or increase telaprevir levels. See the [Telaprevir \(Incivek\) Full Prescribing Information](#) for a detailed description of important drug interactions with telaprevir.

For complete information on telaprevir-related drug interactions, see the [Drug Interactions section in the Telaprevir \(Incivek\) Prescribing Information](#).

Figures

Figure 1 Telaprevir (*Incivek*) Box

Photo: Andrew Karpenko, University of Washington



Figure 2 Telaprevir (*Incivek*) Tablet

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