



## Hepatitis C Treatment

The goal of treatment for hepatitis C virus (HCV) is to cure the virus, which can be done with a combination of drugs. The specific meds used and the duration of treatment depend on a number of factors, including HCV genotype (genetic structure of the virus), viral load, past treatment experience, degree of liver damage, ability to tolerate the prescribed treatment, and whether the person is waiting for a liver transplant or is a transplant recipient. In some cases, HCV treatment may be limited by your health insurance plan or drug formulary.

Here's information about each type, or class, of approved HCV treatment along with drugs in the late stages of development:

### Multi-Class Combination Drugs

Brand Name	Generic Name	Status	Pharmaceutical Company
Epclusa	sofosbuvir + velpatasvir	Approved	Gilead Sciences
Harvoni	ledipasvir + sofosbuvir	Approved	Gilead Sciences
Mavyret	glecaprevir + pibrentasvir	Approved	AbbVie
Technivie	ombitasvir + paritaprevir + ritonavir	Approved	AbbVie
Viekira Pak	ombitasvir + paritaprevir + ritonavir + dasabuvir	Approved	AbbVie
Viekira XR	ombitasvir + paritaprevir + ritonavir + dasabuvir	Approved	AbbVie
Vosevi	sofosbuvir/velpatasvir/voxilaprevir	Approved	Gilead Sciences
Zepatier	elbasvir + grazoprevir	Approved	Merck
n/a	daclatasvir + asunaprevir + beclabuvir	Phase III	Bristol-Myers Squibb

#### What are they?

Multi-class combination drugs are a combination of drugs formulated into a single pill or package of pills. For instance, the drug Harvoni combines two drugs, ledipasvir and sofosbuvir. Ledipasvir is an NS5A inhibitor and is only sold as part of Harvoni; sofosbuvir may be prescribed separately under the brand name of Sovaldi.

### Pegylated Interferon Alfa

Brand Name	Generic Name	Status	Pharmaceutical Company
Pegasys	peginterferon alfa-2a	Approved	Genentech

#### What are they?

Interferon is a protein made by the immune system, named because it interferes with viral reproduction. In addition, interferon signals the immune system to recognize and respond to microorganisms, including viral and bacterial infections. Infected cells release interferon to trigger the immune response. There are three types of interferon: alfa, beta and gamma. Interferon alfa is used to treat viral hepatitis and some types of cancer.

## Nucleoside Analogs

Brand Name	Generic Name	Status	Pharmaceutical Company
Copegus, Moderiba and Ribasphere	ribavirin	Approved	Genentech, AbbVie and Kadmon

### What are they?

Although it is not effective against hepatitis C when used alone, ribavirin plays an important role in HCV combination treatment. Scientists have not determined exactly how it works. However, it is clear that combining ribavirin with some of the HCV direct-acting antivirals and/or pegylated interferon boosts cure rates and reduces the risk of relapse.

## NS3/4A Protease Inhibitors (PIs)

Brand Name	Generic Name	Status	Pharmaceutical Company
Olysio	simeprevir	Approved	Janssen and Medivir AB

### What are they?

Protease inhibitors (PIs) block a protein that plays a critical role in HCV replication: They bind to the viral protease, which is responsible for processing viral proteins. Olysio is used to treat HCV genotype 1 and is taken once a day in combination with one of more HCV drugs. The first generation of HCV protease inhibitors, Incivek and Victrelis, are no longer used in the U.S.

## Nucleotide NS5B Polymerase Inhibitors

Brand Name	Generic Name	Status	Pharmaceutical Company
Sovaldi	sofosbuvir	Approved	Gilead Sciences

### What are they?

These drugs block the NS5B protein, which plays a role in the replication of HCV and is involved in creating copies of the viral RNA genome. Sovaldi is used to treat HCV genotypes 1, 2, 3 and 4 and is part of a once-a-day combination pill with the NS5A inhibitor ledipasvir. Sovaldi may also be combined with other drugs, such as Daklinza, Olysio, or ribavirin, depending on various factors.

## NS5A Inhibitors

Brand Name	Generic Name	Status	Pharmaceutical Company
Daklinza	daclatasvir	Approved	Bristol-Myers Squibb

### What are they?

NS5A is an HCV protein, a part of the HCV replication complex (replicase), with multiple functions in the virus's life cycle. Daklinza is used in combination with Sovaldi as a component of interferon- and ribavirin-free regimens.

## Non-Nucleoside NS5B Polymerase Inhibitors

Brand Name	Generic Name	Status	Pharmaceutical Company
Exviera	dasabuvir	Available as part of Viekira Pak in U.S. / Approved for individual use in Europe	AbbVie

### What are they?

These drugs are active against NS5B but through a different mechanism than the nucleoside/nucleotide NS5B polymerase inhibitors described above.

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