Peginterferon alfa-2b (*PegIntron*)

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**Drug Summary**

Peginterferon alfa-2b played a role in the treatment of chronic hepatitis C prior to the availability of direct-acting antiviral agents. Peginterferon alfa-2b is no longer recommended for the treatment of hepatitis C due to relatively poor efficacy and high rate of adverse effects.

**Class and Mechanism**

Peginterferon alfa-2b consists of interferon alfa-2b covalently linked to a 12-kd linear polyethylene glycol (PEG). The biologic activity of peginterferon-alfa-2b derives from its interferon alfa-2b moiety, which impacts both adaptive and innate immune responses against hepatitis C virus. This alpha interferon binds to and activates human type 1 interferon receptors on hepatocytes which activates multiple intracellular signal transduction pathways, culminating in the expression of interferon-stimulated genes that produce an array of antiviral effects, such as blocking viral protein synthesis and inducing viral RNA mutagenesis. Compared with the native interferon alfa-2b, the peginterferon alfa-2b has sustained absorption, delayed clearance, and a prolonged half life.

**Manufacturer for United States**

Peginterferon alfa-2b (*PegIntron*) is manufactured in the United States by Schering Corporation, a subsidiary of Merck & Co., Inc. (Figure 1) and (Figure 2) and (Figure 3).

**Cost and Medication Access**

The wholesale acquisition cost (WAC) for peginterferon alfa-2b is approximately $8,400 for a
12-week supply, $16,800 for a 24-week supply, and $33,600 for a 48-week supply.

**Adverse Effects**

In most patients, peginterferon alfa-2b causes numerous problematic side effects. In clinical studies, the most common adverse reactions (reported in greater than 40%) were injection site inflammation/reaction, fatigue, headache, rigors, fevers, nausea, myalgia, and anxiety or emotional lability/irritability. In addition, significant hematologic toxicity can occur due to peginterferon alfa-2a, including neutropenia and thrombocytopenia. Patients can develop ophthalmologic disorders and all patients should receive a baseline eye examination and should have a prompt eye examination if they develop ocular symptoms while on therapy. Neuropsychiatric effects such as insomnia, depression, and irritability can also occur. Peginterferon alfa-2b may cause or aggravate life-threatening neuropsychiatric, autoimmune, ischemic, or infectious disorders. Further, the use of peginterferon alfa-2b in patients with cirrhosis can cause life-threatening hepatic decompensation. To report suspected adverse reactions, contact (1) Schering Corporation, a subsidiary of Merck & Co., at 1-800-526-4099 or (2) the FDA at 1-800-FDA-1088.

**Key Drug Interactions**

For complete information on peginterferon alfa-2b-related drug interactions, see the Drug Interactions section in the Peginterferon alfa-2b (PegIntron) Prescribing Information.