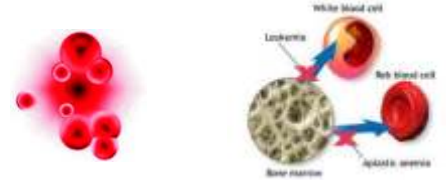


Rx **PEGYLATED INTERFERON ALFA-2B**
(Interferons are a family of naturally-occurring proteins that are made and secreted by cells of the immune system)



What are interferons and how do they work?

Interferons are a family of naturally-occurring proteins that are made and secreted by cells of the immune system (for example, white blood cells, natural killer cells, fibroblasts, and epithelial cells). Three classes of interferons have been identified:

1. alpha
2. beta
3. gamma.

Each class has many effects, though their effects overlap. Commercially available interferons are human interferons manufactured using recombinant DNA technology. The mechanism of action of interferon is complex and is not well understood. Interferons modulate the response of the immune system to viruses, bacteria, cancer, and other foreign substances that invade the body. Interferons do not directly kill viral or cancerous cells; they boost the immune system response and reduce the growth of cancer cells by regulating the action of several genes that control the secretion of numerous cellular proteins that affect growth.

For what conditions are interferons used?

Since interferons enhance the immune system in many ways, they are used for many diseases that involve the immune system. For example:

- * Interferon alfa-2a (Roferon-A) is FDA-approved to treat hairy cell leukemia, AIDS-related Kaposi's sarcoma, and chronic myelogenous leukemia.
- * Interferon alfa-2b is approved for the treatment of hairy cell leukemia, malignant melanoma, condylomata acuminata, AIDS-related Kaposi's sarcoma, chronic hepatitis C, and chronic hepatitis B.
- * Ribavirin combined with **interferon alfa-2b**, interferon alfacon-1 (Infergen), pegylated interferon alfa-2b, or pegylated interferon alfa-2a, all are approved for the treatment of chronic hepatitis C.
- * Interferon beta-1b (**Betaseron**) and **interferon beta-1a (Avonex)** are approved for the treatment of multiple sclerosis.
- * Interferon alfa-n3 (**Alferon-N**) is approved for the treatment of genital and perianal warts caused by human papillomavirus (**HPV**).
- * Interferon gamma-1B (**Actimmune**) is approved for the treatment of chronic granulomatous disease, and severe, malignant osteopetrosis.

Are there any differences among the different types of interferons?

Although interferons are very similar they affect the body differently. Therefore, different interferons are used for different conditions. Interferon alphas are used for treating cancers and viral infections; interferon betas are used for treating multiple sclerosis; and interferon gamma is used for treating chronic granulomatous disease.

What are the side effects of interferons?

Flu-like symptoms following each injection (fever, chills, headache, muscle aches and pains, malaise) occur with all of the interferons. These symptoms vary from mild to severe and occur in up to half of all patients. The symptoms tend to diminish with repeated injections and may be managed with analgesics such as acetaminophen (Tylenol) and antihistamines such as diphenhydramine (Benadryl).

Tissue damage at the site of injection occurs with all of the interferons but more commonly with interferon beta-1b and pegylated interferon alfa-2b.

Depression and suicide have been reported among patients receiving interferons; however, it is unclear whether depression and suicidal thoughts are caused by the diseases being treated or the interferons themselves. Therefore, all patients receiving treatment with an interferon should be observed for the development of depression and suicidal thoughts.

Other side effects that may occur with all interferons and which may be caused by higher doses are:

- * fatigue
- * diarrhea
- * nausea
- * vomiting
- * abdominal pain
- * joint aches
- * back pain
- * dizziness.

Anorexia, congestion, increased heart rate, confusion, low white blood cell count, low platelet count (thrombocytopenia), low red blood cell count, an increase in liver enzymes, an increase in triglycerides, skin rashes, mild hair loss or hair thinning, swelling (edema), cough, or difficulty breathing have been reported.

With which drugs do interferons interact?

Interferon alfa-2a, interferon alfa-2b and interferon beta-1b may increase blood levels of zidovudine (AZT, Retrovir). While this reaction may improve zidovudine's effectiveness, it also may increase the risk of blood and liver toxicity. Therefore, the dose of zidovudine may need to be reduced by as much as 75%.

Interferon alfa-2a and interferon alfa-2b may increase the time it takes for theophylline (for example, THEO-DUR) to be eliminated from the body, and the dose of theophylline may need to be reduced.

What are the available interferons?

- * Roferon-A (interferon alfa-2a)
- * Intron-A (interferon alfa-2b)
- * Alferon-N (interferon alfa-n3)
- * PegIntron (peginterferon alfa-2b)
- * Avonex (interferon beta-1a)
- * Rebif (interferon beta-1a)
- * Betaseron (interferon beta-1b)
- * Extavia (interferon beta-1b)
- * Infergen (interferon alfacon-1)
- * Actimmune (interferon gamma-1b)
- * Pegasys (peginterferon alfa-2a)
- * Peginterferon (peginterferon alfa-2a and Ribavirin)
- PegIntron/Rebetol combo pack (peginterferon alfa-2b and Ribavirin)

Note : This product information is intended only for residents of the India. Taj Pharmaceuticals Limited, medicines help to treat and prevent a range of conditions—from the most common to the most challenging—for people around the world.



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Revised November 2010