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Section:	Prescription Drugs	**Effective Date:**	April 1, 2021
Subsection:	Antineoplastic Agents	**Original Policy Date:**	December 29, 2011
Subject:	Actimmune	**Page:**	1 of 5

Last Review Date: March 12, 2021

Actimmune

Description

Actimmune (interferon gamma-1B)

Background
Actimmune (interferon gamma-1B) is a bioengineered form of interferon gamma, a protein that acts as a biologic response modifier through stimulation of the human immune system (1).

Interferons are naturally occurring small proteins and glycoproteins produced and secreted by cells in response to viral infections and to synthetic or biological inducers. They exert their cellular activities by binding to specific membrane receptors on the cell surface. Once bound to the cell membrane, interferons initiate a complex sequence of intracellular events including the following: induction of certain enzymes, suppression of cell proliferation, immunomodulating activities such as enhancement of the phagocytic activity of macrophages and augmentation of the specific cytotoxicity of lymphocytes for target cells, and inhibition of virus replication in virus-infected cells (2).

Regulatory Status
FDA-approved indications: Actimmune is an interferon indicated for reducing the frequency and severity of serious infections associated with Chronic Granulomatous Disease (CGD). Actimmune is also indicated for delaying time to disease progression in patients with severe, malignant osteopetrosis (SMO) (1).

Acute and transient “flu-like” symptoms such as fever and chills induced by Actimmune at doses of 250 mcg/m^2/day (greater than 10 times the weekly recommended dose) or higher may exacerbate pre-existing cardiac conditions. Actimmune should be used with caution in patients with pre-existing cardiac conditions, including ischemia, congestive heart failure, or arrhythmia (1).

Reversible neutropenia and thrombocytopenia that can be severe and may be dose related have been observed during Actimmune therapy. Caution should be exercised when administrating Actimmune to patients with myelosuppression. Hematologic tests including complete blood counts, differential and platelet counts should be done prior to initiation and at three month intervals during treatment of Actimmune (1).

Hepatotoxicity has been observed in interferon treated patients. Elevations of AST and/or ALT (up to 25-fold) have occurred and reversible with reduction in dosage or interruption of Actimmune treatment. Renal and liver function tests should be done prior to initiation and at three month intervals during treatment. In patients less than 1 year of age should have liver function tests measured monthly (1).

The safety and effectiveness of Actimmune has been established in pediatric patients aged 1 year and older in CGD patients and 1 month and older in SMO patients. There are no data available for pediatric patients below the age of 1 month (1).

Related policies
Alferon N, Intron A

Policy

This policy statement applies to clinical review performed for pre-service (Prior Approval, Precertification, Advanced Benefit Determination, etc.) and/or post-service claims.

Actimmune may be considered **medically necessary** in patients for the treatment of chronic granulomatous disease or for the delaying time to disease progression of severe, malignant osteopetrosis and if the conditions indicated below are met.

Actimmune may be considered **investigational** for all other indications.

Prior-Approval Requirements

Diagnoses

Patient must have **ONE** of the following:

1. Serious infections associated with chronic granulomatous disease (CGD)
2. Severe, malignant osteopetrosis (SMO)

AND ALL of the following:

a. Complete blood counts, differential and platelet counts completed prior to initiation and at three month intervals
b. Renal and liver function tests completed prior to initiation and at three month intervals during treatment. In patients less than 1 year of age, liver function tests measured monthly.

Prior – Approval *Renewal* Requirements

Diagnoses

Patient must have **ONE** of the following:

1. Decrease in the number of serious infections associated with chronic granulomatous disease (CGD)
2. Severe, malignant osteopetrosis (SMO)

AND ALL of the following:

a. Complete blood counts, differential and platelet counts completed every three months
b. Renal and liver function tests completed every three months. In patients less than 1 year of age, liver function tests measured monthly.

Policy Guidelines

Pre - PA Allowance

None

Prior - Approval Limits

Duration 12 months

Prior – Approval *Renewal* Limits

Same as above

Rationale

Summary

Actimmune is indicated for reducing the frequency and severity of serious infections associated with Chronic Granulomatous Disease (CGD). Actimmune is also indicated for delaying time to disease progression in patients with severe, malignant osteopetrosis (SMO). Hepatotoxicity, reversible neutropenia, and thrombocytopenia have been observed during Actimmune therapy. Caution should be exercised in patients with myelosuppression and pre-existing cardiac conditions, including ischemia, congestive heart failure, or arrhythmia. Hematologic, renal, and liver function tests should be completed prior to initiation of therapy and at three month intervals. Patients less than 1 year of age should have liver function tests monitored monthly (1).

Prior approval is required to ensure the safe, clinically appropriate and cost-effective use of Actimmune while maintaining optimal therapeutic outcomes.

References

1. Actimmune [package insert]. Lake Forest, IL: Horizon Therapeutics USA, Inc.; December 2019.
2. Interferons. (2007, August 15). Retrieved February 16, 2021, from https://onlinelibrary.wiley.com/doi/abs/10.1002/9780471743989.vse9972

Policy History

Date	Action
August 2011	Actimmune separated into its own criteria. The following indications removed from criteria due to either being an investigational use or no current clinical sources supporting its use: follicular lymphoma, hairy cell leukemia, malignant melanoma, hepatitis C and inflammatory pulmonary fibrosis.
November 2011	Removed the following indications from criteria due to either being an investigational use or no current clinical sources supporting its use: AIDS-

	related Kaposi's sarcoma, chronic myelogenous leukemia in the first chronic phase with Philadelphia chromosome-positive CML.
December 2012	Deleted age restriction to conform to approved label. Annual review and reference update
March 2014	Annual editorial review Addition of the association of serious infections to the diagnosis of chronic granulomatous disease. Addition of complete blood counts, differential, platelet counts, renal and liver function tests completed every three months. Monthly liver function tests monitored in patients less than 1 year of age. Renewal requirements revised to include decreased number of serious infections and blood work to be monitored.
March 2015	Annual review and reference update
March 2016	Annual editorial review Policy number changed from 5.04.01 to 5.21.01
June 2017	Annual review and reference update
June 2018	Annual editorial review and reference update
June 2019	Annual review
June 2020	Annual review and reference update
March 2021	Annual editorial review and reference update

Keywords

This policy was approved by the FEP® Pharmacy Medical Policy Committee on March 12, 2021 and is effective on April 1, 2021.