BlueCross BlueShield
Federal Employee Program
Blue Cross Blue Shield Association
750 9th St NW, Suite 900
Washington, D.C. 20001
1-800-624-5060
Fax 1-877-378-4727

5.21.142

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| **Section:** | Prescription Drugs | **Effective Date:** | October 3, 2025 |
| **Subsection:** | Antineoplastic Agents | **Original Policy Date:** | May 8, 2020 |
| **Subject:** | Koselugo | **Page:** | 1 of 5 |

***Last Review Date:*** June 12, 2025

# Koselugo

## Description

## Koselugo (selumetinib)

**Background**
Koselugo (selumetinib) is an inhibitor of mitogen-activated protein kinases 1 and 2 (MEK1/2). MEK1/2 proteins are upstream regulators of the extracellular signal-related kinase (ERK) pathway. Both MEK and ERK are critical components of the RAS-regulated RAF-MEK-ERK pathway, which is often activated in different types of cancers. Koselugo inhibits ERK phosphorylation and reduces neurofibroma numbers, volume, and proliferation (1).

**Regulatory Status**
FDA-approved indication: Koselugo is a kinase inhibitor indicated for the treatment of pediatric patients 1 year of age and older with neurofibromatosis type 1 (NF1) who have symptomatic, inoperable plexiform neurofibromas (PN) (1).

Koselugo carries warnings for cardiomyopathy, ocular toxicity, gastrointestinal toxicity, skin toxicity, increased creatinine phosphokinase (CPK), and increased vitamin E levels and risk of bleeding (1).

Cardiomyopathy, defined as a decrease in left ventricular ejection fraction (LVEF) ≥ 10% below baseline, has occurred in patients treated with Koselugo. Ejection fraction should be assessed prior to initiating treatment, every 3 months during the first year of treatment, every 6 months thereafter, and as clinically indicated (1).

Ocular toxicities have also been reported in patients treated with Koselugo. This includes blurred vision, photophobia, cataracts, ocular hypertension, retinal tear, and serious toxicities such as retinal vein occlusion and retinal pigment epithelial detachment. Comprehensive ophthalmic assessments should be conducted prior to initiating Koselugo, at regular intervals during treatment, and for new or worsening visual changes (1).

Koselugo can cause fetal harm when administered to a pregnant woman. Pregnant women should be advised of the potential risk to a fetus. Females of reproductive potential should be advised to use effective contraception during treatment with Koselugo and for 1 week after the last dose. Male patients with female partners of reproductive potential should be advised to use effective contraception during treatment with Koselugo and for 1 week after the last dose (1).

The safety and effectiveness of Koselugo in pediatric patients less than 1 year of age have not been established (1).

**Related policies**

## Policy

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

Koselugo may be considered **medically necessary** if the conditions indicated below are met.

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

## Prior-Approval Requirements

**Age** 1 year of age or older

**Diagnosis**

Patient must have the following:

Neurofibromatosis Type 1 (NF1)

**AND ALL** of the following**:**

a. Patient is symptomatic
b. Patient has plexiform neurofibromas (PN) that are inoperable

c. Females of reproductive potential **only**: patient will be advised to use effective contraception during treatment with Koselugo and for 1 week after the last dose
d. Males with female partners of reproductive potential **only**: patient will be advised to use effective contraception during treatment with Koselugo and for 1 week after the last dose
e. Baseline ophthalmic assessment has been done and prescriber agrees to monitor for ocular toxicities
f. Baseline left ventricular ejection fraction (LVEF) has been assessed and prescriber agrees to monitor LVEF

## Prior – Approval *Renewal* Requirements

**Age** 1 year of age or older

**Diagnosis**

Patient must have the following:

Neurofibromatosis Type 1 (NF1)

**AND ALL** of the following:

a. **NO** disease progression or unacceptable toxicity
b. Females of reproductive potential **only**: patient will be advised to use effective contraception during treatment with Koselugo and for 1 week after the last dose
c. Males with female partners of reproductive potential **only**: patient will be advised to use effective contraception during treatment with Koselugo and for 1 week after the last dose
d. Prescriber agrees to monitor for ocular toxicities
e. Prescriber agrees to monitor left ventricular ejection fraction (LVEF)

## Policy Guidelines

### Pre - PA Allowance

None

### Prior - Approval Limits

**Quantity** 100 mg per day

**Duration** 12 months

## Prior – Approval *Renewal* Limits

Same as above

## Rationale

**Summary**

Koselugo (selumetinib) is a kinase inhibitor indicated for the treatment of pediatric patients 1 year of age and older with neurofibromatosis type 1 (NF1). Koselugo carries warnings for cardiomyopathy, ocular toxicity, gastrointestinal toxicity, skin toxicity, increased creatinine phosphokinase (CPK), and increased vitamin E levels and risk of bleeding. Koselugo can cause fetal harm when administered to a pregnant woman. The safety and effectiveness of Koselugo in pediatric patients less than 1 year of age have not been established (1).

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

**References**

1. Koselugo [package insert]. Wilmington, DE: AstraZeneca Pharmaceuticals LP; September 2025.
2. NCCN Drugs & Biologics Compendium® Selumetinib 2025. National Comprehensive Cancer Network, Inc. Accessed on April 17, 2025.

## Policy History

| Date | Action |
|---|---|
| May 2020 | Addition to PA |
| June 2020 | Annual review |
| September 2020 | Annual review and reference update |
| June 2021 | Annual editorial review |
| June 2022 | Annual review and reference update |
| June 2023 | Annual review and reference update |
| September 2023 | Annual review and reference update |
| June 2024 | Annual review and reference update |

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|---|---|
| September 2024 | Annual review and reference update |
| December 2024 | Annual review and reference update |
| June 2025 | Annual review and reference update |
| October 2025 | Per PI update, reduced age to 1 and older and changed quantity limit to 100 mg per day |

## Keywords

**This policy was effective with interim approval on October 3, 2025 and will be reviewed by the FEP® Pharmacy and Medical Policy Committee on December 12, 2025.**