

[Home](#)

2. Pembrolizumab

Pembrolizumab

Generic name: pembrolizumab [*PEM-broe-LIZ-ue-mab*]

Brand name: [Keytruda](#)

Dosage form: intravenous solution (25 mg/mL)

Drug class: [Anti-PD-1 and PD-L1 monoclonal antibodies](#) (immune checkpoint inhibitors)

Medically reviewed by [Melisa Puckey, BPharm](#). Last updated on Mar 26, 2024.

[Uses](#) [Warnings](#) [Before taking](#) [Dosage](#) [Side effects](#) [Interactions](#) [FAQ](#)

What is pembrolizumab?

Pembrolizumab ([Keytruda](#)) is a type of immunotherapy used to treat cancers, including [lung cancer](#), [breast cancer](#), [melanoma](#), [head and neck cancer](#), and many more. Pembrolizumab works by helping your immune system to slow or stop the growth and spread of cancer cells in the body.

Pembrolizumab is an anti-PD-1 therapy that works (mechanism of action) by blocking the [PD-1](#) (programmed death receptor-1) receptor, which helps it stop cancer cells from hiding from the immune system, resulting in decreased tumor growth.

Pembrolizumab is used alone or in combination with other medicines to treat certain types of cancer, such as:

- skin cancer (melanoma, Merkel cell carcinoma, [squamous cell carcinoma](#));
- lung cancer;
- head and neck cancer;
- classical [Hodgkin lymphoma](#);
- primary mediastinal large B-cell lymphoma;
- cancer of the kidney, bladder, and urinary tract;
- [colorectal cancer](#);
- liver cancer;
- triple-negative breast cancer;
- cancer of the cervix or uterus;
- advanced stomach or esophageal cancer;
- locally advanced unresectable or metastatic biliary tract cancer (BTC) or
- a type of cancer that laboratory testing proves to have certain specific DNA mutations.

Pembrolizumab is often given when the cancer has spread to other parts of the body, or cannot be treated with [surgery](#) or radiation, or when other cancer treatments did not work or have stopped working.

For some types of cancer, pembrolizumab is given only if your tumor tests positive for "PD-L1", or if the tumor has been tested for a specific genetic marker (including "EGFR," "ALK," "HER2/neu," or "TMB").

Your doctor will review your specific type of cancer and past treatment history and other available treatments to determine if pembrolizumab is right for you.

Warnings

Pembrolizumab can change the way your immune system works, which may cause certain side effects that can lead to serious medical problems.

Pembrolizumab can cause serious or life-threatening side effects. Some side effects may need to be treated with other medicine, and your cancer treatments may be delayed. **You will need frequent medical tests to help your doctor determine if it is safe for you to keep receiving this medicine.**

Call your doctor at once if you have: skin problems, vision problems, fever, swollen glands, neck stiffness, chest pain, cough, shortness of breath, muscle or joint pain, pale skin, weakness, diarrhea, severe stomach pain, blood in your stools, bruising or bleeding, dark urine, yellowing of the skin or eyes, a hormonal disorder (frequent headaches, feeling light-headed, rapid heartbeats, a deeper voice, increased thirst or urination, feeling cold, weight gain or loss), or a change in the amount or color of your urine.

Before taking this medicine

To make sure pembrolizumab is safe for you, tell your doctor if you have ever had:

- an autoimmune disorder such as [rheumatoid arthritis](#), [Crohn's disease](#), [ulcerative colitis](#), [lupus](#), or [psoriasis](#);
- received or plan to receive a stem cell transplant that uses donor stem cells;
- an [organ transplant](#);
- radiation to your chest; or
- a nerve-muscle disorder such as [myasthenia gravis](#) or Guillain-Barré syndrome.

Pembrolizumab may harm an unborn baby. You may need a pregnancy test to make sure you are not pregnant. Use effective [birth control](#) while using pembrolizumab and for at least 4 months after your last dose. Tell your doctor if you become pregnant.

Do not breastfeed while using pembrolizumab, and for at least 4 months after your last dose.

 [Pembrolizumab pregnancy and breastfeeding warnings](#) (more detail)

How is pembrolizumab given?

Pembrolizumab is given as an infusion into a vein, usually once every 3 to 6 weeks. A healthcare provider will give you this injection.

This medicine must be given slowly over 30 minutes.

You will need frequent medical tests to help your doctor determine if it is safe for you to keep receiving pembrolizumab. Do not miss any follow-up visits.

 [Detailed Pembrolizumab dosage information](#)

What happens if I miss a dose?

Call your doctor for instructions if you miss an appointment for your pembrolizumab injection.

What happens if I overdose?

In a medical setting an overdose would be treated quickly.

What should I avoid while receiving pembrolizumab?

Follow your doctor's instructions about any restrictions on food, beverages, or activity.

Pembrolizumab side effects

Common pembrolizumab side effects

- [nausea](#), [vomiting](#), stomach pain, loss of appetite, diarrhea, constipation, weight loss;
- low blood sodium levels, abnormal thyroid, liver and kidney function tests;
- low blood cell counts;
- tingling or numbness in your hands or feet, loss of movement in the arms and legs;
- bleeding;
- pain and burning when you urinate;
- fever, headache, feeling weak or tired, dizziness, trouble sleeping;
- cough, hoarse voice, feeling short of breath;
- changes in your sense of taste, dry skin and dry eyes;
- itching, hair loss, rash or blisters on your hands or feet;
- increased blood pressure;
- pain in your muscles, bones, or joints; or
- mouth sores or swelling around your mouth, nose, eyes, throat, intestines or vagina.

Serious pembrolizumab side effects

Get emergency medical help if you have **signs of an allergic reaction to pembrolizumab** (hives, difficult breathing, swelling in your face or throat) **or a severe skin reaction** (fever, [sore throat](#), burning eyes, skin pain, red or purple skin rash with blistering and peeling).

Seek medical treatment if you have a serious drug reaction that can affect many parts of your body. Symptoms may include skin rash, fever, swollen glands, muscle aches, severe weakness, unusual bruising, or yellowing of your skin

or eyes.

Some side effects may occur during the injection. Tell your medical caregiver if you feel dizzy, nauseated, light-headed, itchy, sweaty, or have a [headache](#), chest tightness, [back pain](#), trouble breathing, or swelling in your face.

Pembrolizumab causes your immune system to attack tumor cells, but it could also attack healthy organs and tissues in your body. This could lead to serious or life-threatening side effects on your lungs, liver, pancreas, kidneys, intestines, thyroid, or adrenal glands.

Call your doctor at once if you have:

- new or worsening cough, chest pain, shortness of breath;
- pale skin, easy bruising or bleeding;
- severe [muscle pain](#), cramps, weakness, neck stiffness;
- double or blurry vision;
- confusion, sleep or memory problems, changes in mood or behavior, balance problems;
- numbness, tingling, burning pain, redness, rash, or blisters on your hands or feet;
- fever or flu-like symptoms, swollen glands, sores in your mouth, throat, nose, or on your genital area;
- diarrhea, severe stomach pain or tenderness, bloody or tarry stools;
- feeling sick or uneasy, with pain or swelling near your transplanted organ;
- **high blood sugar** = increased thirst, increased urination, dry mouth, fruity breath odor;
- **kidney problems** = swelling, blood in your urine, urinating less, loss of appetite, feeling tired or short of breath;
- **liver problems** = swelling around your midsection, right-sided upper stomach pain, loss of appetite, dark urine, clay-colored stools, [jaundice](#) (yellowing of the skin or eyes);
- **hormonal problems** = unusual headaches, sensitivity to light, eye problems, rapid heartbeats, increased sweating, extreme tiredness, weight gain or [weight loss](#), increased hunger or thirst, increased urination, [hair loss](#), feeling cold, [constipation](#), hoarse or deepened voice, dizziness, fainting, decreased sex drive; or
- **low red blood cells (anemia)** = pale skin, tiredness, feeling light-headed or short of breath, cold hands and feet.

Your cancer treatments may be delayed or permanently discontinued if you have certain side effects.

This is not a complete list of side effects and others may occur. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

 [Pembrolizumab side effects](#) (more detail)

Related/similar drugs

Trodelvy

Trodelvy is a targeted anticancer medication used to treat types of breast cancer and bladder ...

Reviews & ratings

[4 Reviews](#)

[View more](#)

Opdivo

Opdivo is used to treat many cancers, such as melanoma, non-small cell lung cancer, malignant ...

Reviews & ratings

5.8 / 10

[93 Reviews](#)

[View more](#)

FEATURED

Verzenio

Verzenio is used to treat certain HR-positive and HER2-negative breast cancers in adults. It is an ...

Reviews & ratings

8.0 / 10

[30 Reviews](#)

[View more](#)

Opdivo Qvantig

Opdivo Qvantig is used to treat adults with melanoma, non-small cell lung cancer, renal cell ...

Reviews & ratings

[Add a review](#)

[View more](#)

Rybrevant

Rybrevant is used to treat adults with non-small cell lung cancer (NSCLC) that has spread to other ...

Reviews & ratings

[4 Reviews](#)

[View more](#)

Keytruda

Keytruda is used to treat multiple types of cancer such as melanoma, non-small cell lung cancer ...

Reviews & ratings

4.9 / 10

[252 Reviews](#)

[View more](#)

Arimidex

Arimidex is used to treat breast cancer in postmenopausal women. Learn about side effects ...

Reviews & ratings

5.8 / 10

[80 Reviews](#)

[View more](#)

Avastin

Avastin is used to brain tumors and cancers of the kidney, colon, rectum, or lung. Learn about side ...

Reviews & ratings

7.5 / 10

[30 Reviews](#)

[View more](#)

Methotrexate

Methotrexate is used to treat certain types of cancer of the breast, skin, head and neck, or lung ...

Reviews & ratings

6.5 / 10

[335 Reviews](#)

[View more](#)

What other drugs will affect pembrolizumab?

Tell your doctor about all other cancer treatments you are receiving.

Other drugs may interact with pembrolizumab, including prescription and over-the-counter medicines, [vitamins](#), and [herbal products](#). Tell your doctor about all other medicines you use.

 [Pembrolizumab drug interactions](#) (more detail)

Does pembrolizumab interact with my other drugs?

Enter medications to view a detailed interaction report using our [Drug Interaction Checker](#).

pembrolizumab

+

Enter a drug name

Add

Ingredients

Keytruda

Active ingredient: pembrolizumab

Inactive ingredients: L-histidine, polysorbate 80, sucrose, and water for injection

Manufacturer

Merck Sharp & Dohme LLC, Rahway, NJ 07065, USA.

Pembrolizumab Biosimilars

Biosimilar and interchangeable products are biological products that are highly similar to and have no clinically meaningful differences from the reference product.

Reference products

These are biological products that have already been approved by the FDA, against which biosimilar products are compared. There is 1 for pembrolizumab.

Keytruda (pembrolizumab) - Merck Sharp & Dohme LLC



Formulation type	Strength
Single-Dose Vial	100 mg/4 mL (25 mg/mL)
Single-Dose Vial	50 mg Discontinued

View [Keytruda](#) information in detail.

Popular FAQ

Pembrolizumab vs. nivolumab: How do they compare?



What type of cancer is pembrolizumab used for?



How are Inlyta and Keytruda used in kidney cancer?



How does pembrolizumab affect the immune system?



How is pembrolizumab (Keytruda) administered?



How does pembrolizumab kill cancer cells?



Is lenvatinib / pembrolizumab used in endometrial cancer?



More FAQ

- [What are biologic drugs and how do they work?](#)

[View more FAQ...](#)

References

1. Food and Drug Administration (FDA) Keytruda Product Label [Revised January 2023]
2. Flynn JP, Gerriets V. Pembrolizumab. [Updated 2022 Jun 27]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing;

More about pembrolizumab

- [Check interactions](#)
- [Compare alternatives](#)
- [Reviews \(279\)](#)
- [Side effects](#)
- [Dosage information](#)
- [During pregnancy](#)
- [Drug class: anti-PD-1 and PD-L1 monoclonal antibodies \(immune checkpoint inhibitors\)](#)
- [Breastfeeding](#)
- [En español](#)

Patient resources

Other brands

[Keytruda](#)

Professional resources

- [Pembrolizumab monograph](#)

Other brands

[Keytruda](#)

Related treatment guides

- [Biliary Tract Tumor](#)
- [Cervical Cancer](#)
- [Bladder Cancer](#)
- [Breast Cancer](#)

Further information


Remember, keep this and all other medicines out of the reach of children, never share your medicines with others, and use pembrolizumab only for the indication prescribed.

Always consult your healthcare provider to ensure the information displayed on this page applies to your personal circumstances.

[Medical Disclaimer](#)

Copyright 1996-2025 Cerner Multum, Inc. Version: 15.01.

DRUG STATUS

Availability	
Rx	Prescription only
Pregnancy & Lactation	
	Risk data available
CSA Schedule*	
N/A	Not a controlled drug
Approval History	
	Drug history at FDA

User Reviews & Ratings

5.2 / 10

[279 Reviews](#)

Related News

[FDA Approves Pembrolizumab for HER2 Positive Gastric or Gastroesophageal Junction Adenocarcinoma Expressing PD-L1 \(CPS ≥1\)](#)

Images

Keytruda (pembrolizumab) 100 mg/4 mL injection



[View larger images](#)

Drugs.com Mobile App

Access drug & treatment information, identify pills, check interactions and set up personal medication records.



About

[About Drugs.com](#)
[Advertising policy](#)
[Attribution & citations](#)

Terms & privacy

[Terms of use](#)
[Editorial policy](#)
[Privacy policy](#)

Support

[Help center](#)
[Sitemap](#)
[Contact us](#)



[Subscribe to our newsletter](#) for the latest medication news, new drug approvals and FDA alerts.

Drugs.com provides accurate and independent information on more than 24,000 prescription drugs, over-the-counter medicines and natural products. This material is provided for educational purposes only and is not intended for medical advice, diagnosis or treatment. Data sources include Micromedex (updated 7 Apr 2025), Cerner Multum™ (updated 13 Apr 2025), ASHP (updated 10 Apr 2025) and others.



Ad Choices
ADVERTISEMENT



Copyright © 2000-2025 Drugs.com. All rights reserved.