Pembrolizumab

Brand name: Keytruda®
IUPAC: Anticuerpo humanizado contra la PD-1
FDA approval: Yes
Enlace del fabricante
Usage:

Keytruda® (pembrolizumab) was approved by the FDA in 2014 to treat advanced or unresectable melanoma in patients who are no longer responding to other drugs and in 2015 to treat advanced non-small cell lung cancer. In 2016 pembrolizumab was approved for treatment of patients with metastatic non-small cell lung cancer (NSCLC).1 It is also intended for use in melanoma patients who have already taken ipilimumab. In melanoma patients who have a BRAF V600 mutation, Keytruda® is intended for use after treatment with ipilimumab and a BRAF inhibitor. Keytruda® is also intended for use in non-small cell lung cancer patients whose lung cancer has spread, tests positive for PD-L1, has not responded or is no longer responding to platinum-based chemotherapies, and has abnormal EGFR or ALK genes.2

In 2017, the FDA approved Keytruda® for the treatment of ANY solid cancer that has defects in specific kinds of DNA repair - called microsatellite instability (MSI) or mismatch repair (MMR). This was the **first** time that the FDA had approved a drug based on a genetic feature of the cancer instead of the type of tissue in which the cancer arises (i.e. lung or breast). Another checkpoint inhibitor drug, nivolumab (Opdivo®) has been approved for colorectal cancer patients whose tumors have one of these defects.3

In June of 2018, the FDA approved Keytruda® for the treatment of advanced cervical cancer and for the treatment of a rare form of lymphoma - primary mediastinal large B-cell lymphoma (PMBCL).4, 5

1 Pai-Scherf L, Blumenthal GM, Li H2, Subramaniam S, Mishra-Kalyani PS, He K, Zhao H, Yu J, Paciga M, Goldberg KB, McKee AE, Keegan P, Pazdur R. FDA Approval Summary: Pembrolizumab for Treatment of Metastatic Non-Small Cell Lung Cancer: First-Line Therapy and Beyond. Oncologist. 2017 Nov;22(11):1392-1399. doi: 10.1634/theoncologist.2017-0078. [PUBMED]
2 Keytruda Manufacturer website. Accessed on 8-8-2018 [LINK]
3 FDA approves first cancer treatment for any solid tumor with a specific genetic feature. FDA News Release May 23, 2017 accessed 8-8-2018LINK]
4 FDA approves pembrolizumab for advanced cervical cancer with disease progression during or after chemotherapy. June 12, 2018 Accessed on 08-08-2018 [LINK]
5 FDA approves pembrolizumab for treatment of relapsed or refractory PMBCL. June 13, 2018. Accessed on 8-8-2018 [LINK]

Mechanism:

Pembrolizumab (Keytruda®) is a type of immunotherapy that blocks the PD-1 pathway. Our immune system regulates T cell activity through the PD-1 pathway. Cancer cells can hijack the PD-1 pathway and hide from T cells. The drug works by helping restore proper function to the immune system, so that the immune system and T cells can do what they are supposed to do: detect and kill cancer cells.1

The diagram below shows the 3D crystal structure of Pembrolizumab, a full length IgG4 antibody.

Stick Sphere Line Rotate

1 Keytruda - Manufacturer's Website Accessed on 8-8-2018 [LINK]

Side effects:

Most common side effects include: tiredness, cough, nausea, itching, rash, decreased appetite, constipation, join pain, and diarrhea.1

1 Pembrolizumab. MedlinePlus. Accessed 8-8-2018 [LINK]