



EMA/100392/2023
EMA/H/C/005936

Tibsovo (ivosidenib)

An overview of Tibsovo and why it is authorised in the EU

What is Tibsovo and what is it used for?

Tibsovo is a cancer medicine used to treat adults with:

- acute myeloid leukaemia (AML) that is newly diagnosed. For the treatment of AML, the medicine is used in combination with azacitidine (another cancer medicine). The medicine can only be used in patients whose cancer cells have an 'IDH1 R132 mutation', a specific mutation (change) in the gene for a protein called isocitrate dehydrogenase-1 (IDH1), and who cannot be treated with standard chemotherapy;
- biliary tract cancer that is locally advanced (has spread nearby) or metastatic (has spread to other parts of the body). For the treatment of biliary tract cancer, the medicine is used on its own. It can only be used in patients whose cancer has an IDH1 R132 mutation and who have received at least one prior systemic treatment (treatment given by mouth or injection).

These diseases are rare, and Tibsovo was designated an 'orphan medicine' (a medicine used in rare diseases). Further information on the orphan designations can be found on the European Medicines Agency's website ([acute myeloid leukaemia](#): 12 December 2016; [biliary tract cancer](#): 21 March 2018).

Tibsovo contains the active substance ivosidenib.

How is Tibsovo used?

Tibsovo can only be obtained with a prescription. Treatment should be started and supervised by a doctor experienced in treatment of cancer.

The medicine is available as tablets, to be taken by mouth.

For the treatment of AML, the medicine is taken once a day in combination with azacitidine for seven days at the start of each 28-day treatment period (also known as a 'cycle'). Treatment should continue for as long as clinical benefit is observed or until treatment is no longer tolerated by the patient.

For the treatment of biliary tract cancer, the medicine is taken once a day. Treatment should continue until the disease gets worse or until treatment is no longer tolerated by the patient.

For more information about using Tibsovo, see the package leaflet or contact your doctor or pharmacist.

Official address Domenico Scarlattilaan 6 • 1083 HS Amsterdam • The Netherlands

Address for visits and deliveries Refer to www.ema.europa.eu/how-to-find-us

Send us a question Go to www.ema.europa.eu/contact **Telephone** +31 (0)88 781 6000

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How does Tibsovo work?

Some patients with AML or biliary tract cancer have a mutation in the gene for the IDH1 protein. This causes the protein to not work properly, resulting in the production of high levels of a substance called 2-hydroxyglutarate (2-HG), which in turn contributes to cell changes which can lead to the development of cancer. The active substance in Tibsovo, ivosidenib, blocks the action of the faulty IDH1 protein, thereby lowering the production of 2-HG. This, in turn, slows down the growth and spread of the cancer.

What benefits of Tibsovo have been shown in studies?

Acute myeloid leukaemia

Tibsovo was investigated in a main study involving 146 adults with previously untreated AML. All patients had mutations in the gene for IDH1. Patients were given either Tibsovo or placebo (a dummy treatment), both in combination with azacitidine, and the study looked at the percentage of patients who experienced certain outcomes (an 'event', meaning their treatment stopped working, their cancer returned or they died). The study showed that Tibsovo reduced the proportion of patients who experienced an event by 67%: 64% (46 out of 72) of the patients given Tibsovo experienced an event, compared with 84% (62 out of 74) of patients on placebo. In addition, patients given Tibsovo lived on average for 24 months after starting treatment, compared with 8 months for patients given placebo.

Biliary tract cancer

Tibsovo was investigated in a main study involving 187 adults with biliary tract cancer that had spread or that could not be removed with surgery, and who had previously received at least one systemic treatment. All patients had the IDH1 R132 mutation.

Patients given Tibsovo lived on average for 2.7 months without their disease getting worse and 10.3 months overall, compared with 1.4 months and 7.5 months, respectively, for patients given placebo. In the study, 52% (64 out of 124) of patients given Tibsovo experienced worsening of their disease and 10% (12 patients) died, compared with 72% (44 out of 61) and 10% (6 patients) of those on placebo.

What are the risks associated with Tibsovo?

For the full list of side effects and restrictions with Tibsovo, see the package leaflet.

The most common side effects with Tibsovo (which may affect more than 1 in 10 people) when given in combination with azacitidine to treat AML include vomiting, neutropenia (low levels of neutrophils, a type of white blood cell that fights infection), thrombocytopenia (low levels of blood platelets), QT prolongation (abnormal activity of the heart that affects its rhythm) and insomnia (difficulty falling and staying asleep, and poor quality of sleep). The most common serious side effects (which may affect up to 1 in 10 people) include differentiation syndrome (a potentially life-threatening complication of certain treatments used for AML) and thrombocytopenia.

When given alone to treat biliary tract cancer, the most common side effects with Tibsovo (which may affect more than 1 in 10 people) include tiredness, nausea (feeling sick), abdominal pain, diarrhoea, decreased appetite, ascites (fluid build-up in the belly), vomiting, anaemia (low levels of red blood cells) and rash. The most common serious side effects (which may affect up to 1 in 10 people) include ascites, hyperbilirubinaemia (high blood levels of bilirubin, indicating liver problems), and cholestatic jaundice (yellowing of the skin and eyes due to blockage of bile ducts).

Tibsovo must not be given with medicines called 'strong CYP3A4 inducers' as these may affect the levels of Tibsovo in the blood. In addition, it must not be given together with dabigatran (an 'anticoagulant' or blood thinning medicine) or to patients with certain heart rhythm problems.

Why is Tibsovo authorised in the EU?

For patients with AML, treatment with Tibsovo prolonged the time they lived before an event occurred (treatment no longer working, the return of the cancer or death), as well as the time they lived overall. In patients with biliary tract cancer, Tibsovo reduced the risk of disease progression. Both AML and biliary tract cancer patients have a generally poor prognosis. Side effects of the medicine are considered manageable. Known risks of heart rhythm problems are managed by restricting the use of the medicine in patients at high risk for these events, and risks of differentiation syndrome are mitigated by provision of educational materials to patients with AML. The European Medicines Agency therefore decided that Tibsovo's benefits are greater than its risks and it can be authorised for use in the EU.

What measures are being taken to ensure the safe and effective use of Tibsovo?

The company that markets Tibsovo will provide 'alert cards' for patients with AML to explain the risks of differentiation syndrome, its signs and symptoms and when to seek medical help.

Recommendations and precautions to be followed by healthcare professionals and patients for the safe and effective use of Tibsovo have also been included in the summary of product characteristics and the package leaflet.

As for all medicines, data on the use of Tibsovo are continuously monitored. Suspected side effects reported with Tibsovo are carefully evaluated and any necessary action taken to protect patients.

Other information about Tibsovo

Tibsovo received a marketing authorisation valid throughout the EU on 4 May 2023.

Further information on Tibsovo can be found on the Agency's website:

ema.europa.eu/medicines/human/EPAR/tibsovo

This overview was last updated in 05-2023.