

Tyrosine kinase inhibitor

see [Multi-Kinase Inhibitor](#)

Epidermal growth factor receptor tyrosine kinase inhibitor

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Indications

These drugs have been developed to treat various medical conditions, primarily cancer, but also other diseases. Here are some common indications for tyrosine kinase inhibitors:

Cancer Treatment:

Chronic Myeloid Leukemia (CML): TKIs like imatinib (Gleevec), dasatinib (Sprycel), and nilotinib (Tasigna) are used as first-line treatments for CML, a type of leukemia driven by the BCR-ABL fusion gene.

[Tyrosine kinase inhibitor for non-Small Cell Lung Cancer treatment.](#)

Renal Cell Carcinoma (RCC): Sunitinib (Sutent), pazopanib (Votrient), and others are used to treat RCC.

Gastrointestinal Stromal Tumor (GIST): Imatinib is also used to treat GIST, which often has mutations in the KIT gene.

Hepatocellular Carcinoma (HCC): Sorafenib (Nexavar) and lenvatinib (Lenvima) are indicated for advanced HCC.

Thyroid Cancer: Vandetanib (Caprelsa) and cabozantinib (Cometriq) may be used in certain cases of advanced thyroid cancer.

Chronic Myelomonocytic Leukemia (CMML): Some TKIs, like ruxolitinib (Jakafi), are used in CMML.

Gastrointestinal Stromal Tumors (GIST): In addition to imatinib, sunitinib and regorafenib (Stivarga) are used in the treatment of GIST.

Mastocytosis: Midostaurin (Rydapt) is used to treat aggressive systemic mastocytosis.

Dermatofibrosarcoma Protuberans (DFSP): Imatinib is indicated for DFSP, a rare type of skin cancer.

Systemic Mastocytosis: Masitinib (Kinavet) is used for systemic mastocytosis.

Philadelphia Chromosome-Positive (Ph+) Acute Lymphoblastic Leukemia (ALL): TKIs like dasatinib and ponatinib (Iclusig) may be used in Ph+ ALL.

Hypereosinophilic Syndrome (HES): Some TKIs, including imatinib and mepolizumab, are used in the

treatment of HES.

Dermatomyositis: Nintedanib (Ofev) is used in some cases of dermatomyositis.

Idiopathic Pulmonary Fibrosis (IPF): Nintedanib and pirfenidone (Esbriet) are TKIs used to slow the progression of IPF.

Fibrosing Interstitial Lung Diseases (ILDs): Nintedanib is also used to treat certain fibrosing ILDs.

Malignant Gliomas: Some TKIs, such as bevacizumab (Avastin) and regorafenib, may be used in the treatment of malignant gliomas.

Systemic Sclerosis (Scleroderma): Tyrosine kinase inhibitors like imatinib are being studied for their potential in the treatment of systemic sclerosis.

It's important to note that the specific indications for TKIs can vary by country and may change over time as new research and clinical trials provide more information about their efficacy and safety. Treatment decisions should always be made in consultation with a healthcare provider who can assess the individual patient's condition and recommend the most appropriate therapy. Additionally, each TKI may have its own unique side effect profile and dosing regimen, so patients should be closely monitored during treatment.

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