Glossary A-Z

Wirkstoffe S

Sapacitabine
Navigation überspringen A B C D E F G H I L N O P R S T U V Z

According to the NCI website sapacitabine is an orally bioavailable pyrimidine analogue prodrug with potential antineoplastic activity. Sapacitabine is hydrolyzed by amidases to the deoxycytosine analogue CNDAC (2'-Cyano-2'-deoxyarabinofuranosylcytosine), which is then phosphorylated into the active triphosphate form. As an analogue of deoxycytidine triphosphate, CNDAC triphosphate incorporates into DNA strands during replication, resulting in single-stranded DNA breaks during polymerization due to beta-elimination during the fidelity checkpoint process; cell cycle arrest in the G2 phase and apoptosis ensue. The unmetabolized prodrug may exhibit antineoplastic activity as well.

Link to Drug Information Portal, a service of the U.S. National Library of Medicine, National Institutes of Health

Link to MedlinePlus, a service of the U.S. National Library of Medicine, National Institutes of Health
Link to National Cancer Institute
Link zu Wiki

Savolitinib

According to the NCI website, *volitinib* (savolitinib) is an orally bioavailable inhibitor of the c-Met receptor tyrosine kinase with potential antineoplastic activity. Volitinib selectively binds to and inhibits the activation of c-Met in an ATP-competitive manner, and disrupts c-Met signal transduction pathways. This may result in cell growth inhibition in tumors that overexpress the c-Met protein. C-Met encodes the hepatocyte growth factor receptor tyrosine kinase and plays an important role in tumor cell proliferation,

survival, invasion, and metastasis, and tumor angiogenesis; this protein is overexpressed or mutated in a variety of cancers. Check for active clinical trials using this agent. (NCI Thesaurus)

More Information in English:

Link to Drug Information Portal, a service of the U.S. National Library of Medicine, National Institutes of Health
Link to National Cancer Institute

Wiki

Seliciclib

According to the NCI website seliciclib is an orally bioavailable, small-molecule cyclin-dependent kinase (CDK) inhibitor with potential proapoptotic and antineoplastic activities. Seliciclib primarily inhibits CDK2/E, CDK2/A, CDK7 and CDK9 by competing for their ATP binding sites, leading to a disruption of cell cycle progression. In addition, this agent appears to interfere with CDK-mediated phosphorylation of the carboxy-terminal domain of RNA polymerase II, inhibiting RNA polymerase II-dependent transcription, which may result in the down-regulation of antiapoptotic proteins such as induced myeloid leukemia cell differentiation protein Mcl-1. CDKs, serine/threonine kinases that play an important role in cell cycle regulation, are overexpressed in various malignancies. Mcl-1 belongs to the Bcl-2 family of antiapoptotic proteins and is a protein crucial to the survival of a range of tumor cell types.

Link to Drug Information Portal
Link to MedlinePlus
Link to National Cancer Institute
Link zu Wiki

Cyclin-dependent-kinases

Selinexor - XPOVIO® (USA)

According to the NCI website, selinexor is an orally available, small molecule inhibitor of CRM1 (chromosome region maintenance 1 protein, exportin 1 or XPO1), with potential antineoplastic activity. Selinexor modifies the essential CRM1-cargo binding residue cysteine-528, thereby irreversibly inactivating CRM1-mediated nuclear export of cargo proteins such as tumor suppressor proteins (TSPs), including p53, p21, BRCA1/2, pRB, FOXO, and other growth regulatory proteins. As a result, this agent, via the approach of selective inhibition of nuclear export (SINE), restores endogenous tumor suppressing processes to selectively eliminate tumor cells while sparing normal cells. CRM1, the major export factor for proteins from the nucleus to the cytoplasm, is overexpressed in a variety of cancer cell types. Check for active clinical trials using this agent. (NCI Thesaurus)

Indikation gemäss NCI Eebsite:

- **Multiple myeloma** that has relapsed (come back) or is refractory (does not respond to treatment). It is used with dexamethasone in adults who have received at least four previous treatments that included at least two proteasome inhibitors, at least two immunomodulating agents, and an anti-CD38 monoclonal antibody.

This use is approved under FDA's Accelerated Approval Program. As a condition of approval, a confirmatory trial(s) must show that selinexor provides a clinical benefit in these patients.

A Global Randomized Trial Planned for Selinexor to Treat COVID-19

More Information in English:

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Wiki
Link to European Medicines Agency (EMEA)

Selpercatinib - Retevmo® (USA)

According to the NCI website, Selpercatinib is an orally bioavailable selective inhibitor of wild-type, mutant and fusion products involving the proto-oncogene receptor tyrosine kinase rearranged during transfection (RET), with potential antineoplastic activity. Upon oral administration, selpercatinib selectively binds to and targets wild-type RET as well as various RET mutants and RET-containing fusion products. This results in an inhibition of cell growth of tumors cells that exhibit increased RET activity. In addition, selpercatinib targets, binds to and inhibits vascular endothelial growth factor receptor 1 (VEGFR1) and 3 (VEGFR3), and fibroblast growth factor receptor 1 (FGFR1), 2 (FGFR2), and 3 (FGFR3). RET overexpression, activating mutations, and fusions result in the upregulation and/or overactivation of RET tyrosine kinase activity in various cancer cell types; dysregulation of RET activity plays a key role in the development and progression of these cancers. Check for active clinical trials using this agent. (NCI Thesaurus)

Patient information

According to the NCI website Selpercatinib is approved to treat:

- **Medullary thyroid cancer** that has a certain mutation in the RET gene and is advanced or metastatic. It is used in adults and children aged 12 years and older who need systemic therapy.[1]
- **Non-small cell lung cancer** that has a RET fusion gene and is metastatic. It is used in adults.[1]
- **Thyroid cancer** that has a RET fusion gene and is metastatic or advanced. It is used in adults and children aged 12 years and older who need systemic therapy, including those who received radioactive iodine and it did not work or is no longer working.[1]

[1]This use is approved under FDA's Accelerated Approval Program. As a condition of approval, confirmatory trial(s) must show that selpercatinib provides a clinical benefit in these patients.

Selpercatinib is also being studied in the treatment of other types of cancer.

More Information in English:

Inxight: Drugs (NIH)

AdisInsight

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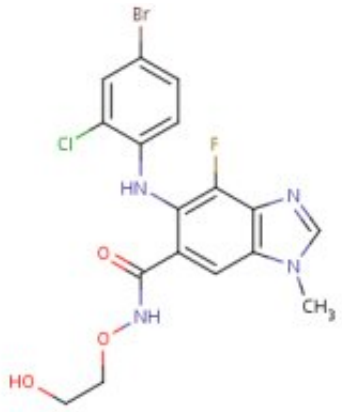
Selumetinib



According to the NCI website, Selumetinib is an orally bioavailable small molecule with potential antineoplastic activity. Selumetinib inhibits mitogen-activated protein kinase kinases (MEK or MAPK/ERK kinases) 1 and 2, which may prevent the activation of MEK1/2-dependent effector proteins and transcription factors, and so may inhibit cellular proliferation in MEK-overexpressing tumor cells. MEK 1 and 2 are dual-specificity kinases that are essential mediators in the activation of the RAS/RAF/MEK/ERK pathway, are often upregulated in various tumor cell types, and are drivers of diverse cellular activities, including cellular proliferation.

On 31 July 2018, orphan designation **(EU/3/18/2050) was granted by the European Commission to AstraZeneca AB, Sweden, for selumetinib for the treatment of neurofibromatosis type 1.**

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MaP-Kinase-Weg

Sonidegib - ODOMZO®

Sonidegib - Odomzo® ist ein oral bioverfügbarer niedermolekularer „smoothened“ (Smo) Antagonist mit einer potentiellen antineoplastischen Aktivität. Sonidegib bindet selektiv an den Hedgehog (Hh)-Liganden Zelloberflächenrezeptor Smo, was zur Unterdrückung des Hh-Signalwegs und damit zur Hemmung von Tumorzellen, in denen dieser Signalweg abnormal aktiviert ist. Der Hh-Signalweg spielt eine wichtige Rolle beim Zellwachstum, der Differenzierung und Reparatur. Die unangemessene Aktivierung des Hh-Signalwegs und die unkontrollierte Zellproliferation, wie sie in einer Vielzahl von Krebsarten beobachtet wird, kann mit Mutationen im Hh-Ligand-Zelloberflächenrezeptor Smo assoziiert sein.

Indikationen/Anwendungsmöglichkeiten gemäss Compendium®:

- Odomzo ist indiziert zur Behandlung erwachsener Patienten mit fortgeschrittenem Basalzellkarzinom (BCC), das mit einer kurativen chirurgischen Behandlung oder einer radiologischen Therapie nicht behandelt werden kann.

Merkblätter für Patientinnen und Patienten **(Stichtag 26.3.20: noch nicht erhältlich)**

Link zur Fachinformation des Arzneimittel-Kompendiums der Schweiz:

Medikamenteniformation: Für den Arzt Patienteninformation

Information des Médicaments: Info prof. Info patient

Informazione sul medicamento: info per il paziente

More Information in English:

Link to Drug Information Portal, a service of the U.S. National Library of Medicine, National Institutes of Health

Link to National Cancer Institute
Link zu Wiki
Link zu PharmaWiki
Link to Physicians Desk Reference (PDR)
Link to European Medicines Agency (EMEA)

More information for patients:
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Info for Patients presented by Scott Hamilton from Chemocare.com

Smoothened agonist

Sorafenib - NEXAVAR®

Sorafenib - Nexavar® das Tosylatsalz von Sorafenib ist eine synthetische Verbindung, die auf die Signalkette für das Wachstum und die Tumorangiogenese abzielt. Sorafenib blockiert das Enzym Raf-Kinase, ein kritischer Bestandteil des RAF/MEK/ERK-Signalweges, der die Zellteilung und Proliferation steuert; darüber hinaus hemmt Sorafenib die VEGFR-2/PDGFR-beta-Signalkaskade, wodurch die Tumor-Angiogenese blockiert wird.

Indikationen/Anwendungsmöglichkeiten gemäss Arzneimittel-Kompendium der Schweiz®:

- Zur Behandlung von Patienten mit Leberzellkarzinom.
- Behandlung von Patienten mit fortgeschrittenem Nierenzellkarzinom nach Nephrektomie und palliativer oder adjuvanter Vortherapie mit Cytokinen (IL-2, IFN).
- Behandlung von Patienten mit progredientem, lokal fortgeschrittenem oder metastasiertem, Radiojod-refraktärem, differenziertem Schilddrüsenkarzinom.

Merkblätter für Patientinnen und Patienten

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Receptor Tyrosine Kinase signaling Pathway
Receptor tyrosine kinases (RTK)s are very important signaling pathway, which not only include growth factor receptors such as **EGFR(HER)**, **VEGFR** , **PDGFR**, **FGGFR**, **IGF-1R**, Mast/stem cell growth factor receptor (**c-Met**) and **HER2**, but also other gene products which are expressed by the oncogenes such as SRC, Bcr, c-Met and Abl as well. **Read more at selleckbio about Receptor Tyrosine Kinase Signaling Pathway**

Tyrosin Kinase Inhibitor

Sunitinib - SUTENT®

Sunitinib - Sutent® - ist das oral bioverfügbare Malat Salz eines Indolinon-basierten Tyrosinkinase-Inhibitore mit einer potentiellen antineoplastischen Aktivität. Sunitinib blockiert die Tyrosinkinase-Aktivitäten des vaskulären endothelialen Wachstumsfaktor-Rezeptors 2 (VEGFR2) sowie den Plättchen-abhängigen Wachstumsfaktor-Rezeptor B (PDGFRB) und c-kit. Dadurch werden die Angiogenese und die Zellproliferation gehemmt. Dieses Mittel hemmt auch die Phosphorylierung der Fms bezogenen Tyrosinkinase 3 (FLT3).Es handelt sich um eine weitere Tyrosin-Rezeptor-Kinase, die von einigen leukämischen Zellen exprimiert wird.

Indikationen/Anwendungsmöglichkeiten gemäss Compendium®:

- Behandlung von Patienten mit fortgeschrittenem und/oder metastasierendem Nierenzellkarzinom (RCC).
- Behandlung von Patienten mit malignem gastrointestinalem Stromatumor (GIST) bei Resistenz oder Intoleranz auf Imatinib.
- Behandlung von Patienten mit nicht resezierbarem, gut differenziertem, fortgeschrittenem und/oder metastasierendem neuroendokrinen Pankreaskarzinom (pancreatic NET).

Merkblatt für Patientinnen und Patienten

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Tyrosin Kinase Inhibitor