Glossary A-Z

Wirkstoffe C

Cabazitaxel - JEVTANA®

Navigation überspringen A B C D E F G H I K L M N O P Q R W T U V Z

According to the NCI website Cabazitaxel is a semi-synthetic derivative of the natural taxoid 10-deacetylbaccatin III with potential antineoplastic activity. Cabazitaxel binds to and stabilizes tubulin, resulting in the inhibition of microtubule depolymerization and cell division, cell cycle arrest in the G2/M phase, and the inhibition of tumor cell proliferation. Unlike other taxane compounds, this agent is a poor substrate for the membrane-associated, multidrug resistance (MDR), P-glycoprotein (P-gp) efflux pump and may be useful for treating multidrug-resistant tumors. In addition, cabazitaxel penetrates the blood-brain barrier (BBB).

Indikationen gemäss Compendium.ch®

JEVTANA in Kombination mit Prednison bzw. Prednisolon ist indiziert zur Behandlung des metastasierten kastrationsrefraktären Prostatakarzinoms (mCRPC) bei Patienten, die zuvor mit Docetaxel chemotherapeutisch behandelt wurden.

Link zur Fachinformation des Compendium.ch®

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 MedlinePlus, 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)

Taxane

Cabozantinib - CABOMETYX®

According to the NCI website the s-malate salt form of cabozantinib, is an orally bioavailable, small molecule receptor tyrosine kinase (RTK) inhibitor with potential antineoplastic activity. Cabozantinib strongly binds to and inhibits several RTKs, which are often overexpressed in a variety of cancer cell types, including hepatocyte growth factor receptor (MET), RET (rearranged during transfection), vascular endothelial growth factor receptor types 1 (VEGFR-1), 2 (VEGFR-2), and 3 (VEGFR-3), mast/stem cell growth factor (KIT), FMS-like tyrosine kinase 3 (FLT-3), TIE-2 (TEK tyrosine kinase, endothelial), tropomyosin-related kinase B (TRKB) and AXL. This may result in an inhibition of both tumor growth and angiogenesis, and eventually lead to tumor regression. Check for active clinical trials using this agent.

Indikationen gemäss Compendium.ch®

CABOMETYX ist indiziert für die Behandlung des fortgeschrittenen Nierenzellkarzinoms (*renal cell carcinoma*, RCC) bei Erwachsenen nach vorangegangener zielgerichteter Therapie gegen VEGF (vaskulärer endothelialer Wachstumsfaktor).

Link zur Fachinformation von Compendium.ch®:

Medikamenteniformation: Für den Arzt

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 MedlinePlus, 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)
Info for Patients presented by Scott Hamilton from Chemocare.com

Capecitabin - XELODA® und Capecitabin Generika

Capecitabin ist ein Fluoropyrimidin Carbamat, das zur Gruppe der Antineoplastischen Substanzen gehört. Es wird auch als Antimetabolit bezeichnet. Als Prodrug wird Capecitabin durch Tumorzellen selektiv zur cytotoxischen Einheit aktiviert, 5-Fluorouracil (5-FU); anschließend wird 5-FU von sowohl Tumorzellen wie auch normalen Zellen zu zwei aktiven Metaboliten metabolisiert: 5-Fluor-2-desoxyuridin Monophosphat (FdUMP) und 5-fluoruridin-Triphosphat (FUTP). FdUMP hemmt die DNA-Synthese und die Zellteilung, während FUTP RNA und Proteinsynthese hemmt.

Indikationen gemäss Compendium.ch®:

Kolon- und Kolorektalkarzinom

- Adjuvante Therapie bei Patienten mit Kolonkarzinom Dukes C als Monotherapie oder in Kombination mit Oxaliplatin.
- Firstline-Therapie bei Patienten mit metastasierendem Kolorektalkarzinom als Monotherapie oder in Kombination mit Oxaliplatin (XELOX) mit oder ohne Bevacizumab.
- Secondline-Therapie bei Patienten mit metastasierendem Kolorektalkarzinom in Kombination mit

Oxaliplatin (XELOX).

Mammakarzinom

- In Kombination mit Docetaxel bei Patientinnen mit lokal fortgeschrittenem oder metastasierendem Mammakarzinom nach Versagen einer zytotoxischen Chemotherapie mit Anthracyclinen.
- In Kombination mit Vinorelbin bei Patientinnen mit lokal fortgeschrittenem oder metastasierendem Mammakarzinom nach Versagen einer Therapie mit Anthracyclinen und Taxanen.
- Bei Patientinnen mit lokal fortgeschrittenem oder metastasierendem Mammakarzinom, wenn Paclitaxel und eine Chemotherapie mit Anthracyclinen versagt haben.

Ösophaguskarzinom, Karzinom des gastroösophagealen Übergangs und Magenkarzinom

- Firstline-Therapie in Kombination mit Epirubicin und Oxaliplatin bei Patienten mit fortgeschrittenem oder metastatischem Magenkarzinom, Ösophaguskarzinom oder Karzinom des gastroösophagealen Übergangs.
- In Kombination mit Herceptin und Cisplatin bei Patienten und Patientinnen mit HER2-positivem metastasierendem Adenokarzinom des Magens oder des gastroösophagealen Übergangs, welche keine Chemotherapie im Rahmen der metastatischen Erkrankung erhalten haben. Herceptin sollte nur bei Patienten mit metastasierendem Magenkarzinom, deren Tumoren HER2 überexprimieren, definiert durch IHC2+ und bestätigt durch FISH+ oder IHC3+ bestimmt durch einen validierten Test, angewendet werden.

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

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

Info for Patients presented by Scott Hamilton from Chemocare.com

Antimetaboliten

Capmatinib

According to the NCI website Capmatinib is an orally bioavailable inhibitor of the proto-oncogene c-Met (hepatocyte growth factor receptor [HGFR]) with potential antineoplastic activity. Capmatinib selectively binds to c-Met, thereby inhibiting c-Met phosphorylation and disrupting c-Met signal transduction pathways. This may induce cell death in tumor cells overexpressing c-Met protein or expressing constitutively activated c-Met protein. c-Met, a receptor tyrosine kinase overexpressed or mutated in many tumor cell types, plays key roles in tumor cell proliferation, survival, invasion, metastasis, and tumor angiogenesis.

Link to National Cancer Institute

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

The IUPHAR/BPS Guide to PHARMACOLOGY

c-Met inhibitors

Carboplatin

Paraplatin® sowie Generika - A second-generation platinum compound with a broad spectrum of antineoplastic properties.

Indikationen/Anwendungsmöglichkeiten gemäss Arzneimittelkompendium:
Einzeln oder in Kombination zur Behandlung des Ovarialkarzinoms, des kleinzelligen Bronchialkarzinoms, von Tumoren des ORL-Bereiches und des Cervixkarzinoms. Eine Monotherapie bei ORL-Karzinomen sollte in Kombination mit Radiotherapie erfolgen. Beim Blasenkarzinom ist Paraplatin nur in Kombination mit anderen Zytostatika angezeigt.

Link to National Cancer Institute
Link zu Wiki
Link zu PharmaWiki
Link to Physicians Desk Reference (PDR)
Link zur Fachinformation des Arzneimittel-Kompendium der Schweiz
Info for Patients presented by Scott Hamilton from Chemocare.com

Alkylating-like Agents

Carfilzomib - KYPROLIS®

According to the NCI website the proteasome Inhibitor carfilzomib is an epoxomicin derivate with potential antineoplastic activity. Carfilzomib irreversibly binds to and inhibits the chymotrypsin-like activity of the 20S proteasome, an enzyme responsible for degrading a large variety of cellular

proteins. Inhibition of proteasome-mediated proteolysis results in an accumulation of polyubiquinated proteins, which may lead to cell cycle arrest, induction of apoptosis, and inhibition of tumor growth.

Indikationen/Anwendungsmöglichkeiten

Kyprolis® in Kombination mit Lenalidomid und Dexamethason ist indiziert zur Behandlung von erwachsenen Patienten mit rezidivierendem multiplem Myelom, die mindestens eine vorangegangene Therapie erhalten haben (siehe «Eigenschaften/Wirkungen»).

Link zur Fachinformation des Compendiums®:

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 to Wikipedia

Link to PharmaWiki

Link to European Medicines Agency (EMEA)

Link to Physicians Desk Reference (PDR)

Prescription Information for patients

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

Info for Patients presented by Scott Hamilton from Chemocare.com

Proteasome Inhibitor

Carmustine - BiCNU

According to the NCI website Carmustine is an antineoplastic nitrosourea. Carmustine alkylates and cross-links DNA during all phases of the cell cycle, resulting in disruption of DNA function, cell cycle arrest, and apoptosis. This agent also carbamoylates proteins, including DNA repair enzymes, resulting in an enhanced cytotoxic effect.Indikationen/Anwendungsmöglichkeiten gemäss Arzneimittelkompendium:

Indikationen/Anwendungsmöglichkeiten gemäss Compendium®:

- BiCNU ist als Einzelsubstanz oder in etablierten Kombinationen mit anderen zugelassenen Chemotherapeutika bei folgenden Erkrankungen indiziert:
- •Salvage-Therapie bei rezidivierenden Grad III- und IV-Gliomen wie anaplastischens Oligodendrogliom, Glioblastom, Ependymom und anaplastisches Astrozytom.
- •Morbus Hodgkin – als Teil eines myeloablativen Konditionierungsschemas mit nachfolgender autologer Stammzellentransplantation bei Patienten mit rezidivierender, refraktärer Erkrankung.
- •Non-Hodgkin-Lymphome – als Teil eines myeloablativen Konditionierungsschemas mit nachfolgender Stammzellentransplantation bei Patienten mit aggressiver, refraktärer Erkrankung.

Link zur Fachinformation von Compendium.ch®:

Medikamenteniformation: Für den Arzt

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

Link zu PharmaWiki
Link to Physicians Desk Reference (PDR)
Link to European Medicines Agency (EMEA)
Info for Patients presented by Scott Hamilton from Chemocare.com

Alkylating Agents

According to the NCI website, the BET inhibitor CC-90010 is a bifunctional fusion protein composed of avelumab, an anti-programmed death ligand 1 (PD-L1) human monoclonal antibody, bound to the soluble extracellular domain of human transforming growth factor beta (TGFbeta) receptor type II (TGFbetaRII), with potential antineoplastic and immune checkpoint modulating activities. Upon administration, the TGFbetaRII moiety of bintrafusp alfa binds to and neutralizes TGFbeta while the avelumab moiety simultaneously binds to PD-L1. This prevents TGFbeta- and PD-L1-mediated signaling, and increases natural killer (NK) cell and cytotoxic T-lymphocyte (CTL) activities. This inhibits tumor cell proliferation in susceptible tumor cells. TGFbeta and PD-L1 are both upregulated in certain types of cancers; their overexpression is associated with increased evasion of immune surveillance and contributes to poor prognosis. Check for active clinical trials using this agent. (NCI Thesaurus)

More Information in English:

AdisInsight
Link to National Cancer Institute

CC 90011

According to the NCI website, the LSD1 inhibitor CC-90011 is an orally available inhibitor of lysine specific demethylase 1 (LSD1), with potential antineoplastic activity. Upon administration, CC-90011 binds to and inhibits LSD1, a demethylase that suppresses the expression of target genes by converting the di- and mono-methylated forms of lysine at position 4 of histone H3 (H3K4) to mono- and unmethylated H3K4, respectively. LSD1 inhibition enhances H3K4 methylation and increases the expression of tumor suppressor genes. This may lead to an inhibition of cell growth in LSD1-overexpressing tumor cells. In addition, LSD1 demethylates mono- or di-methylated H3K9 which increases gene expression of tumor promoting genes; inhibition of LSD1 promotes H3K9 methylation and decreases transcription of these genes. LSD1, an enzyme belonging to the flavin adenine dinucleotide (FAD)-dependent amine oxidase family that is overexpressed in certain tumor cells, plays a key role in tumor cell growth and survival. Check for active clinical trials using this agent. (NCI Thesaurus)

More Information in English:

AdisInsight

Link to National Cancer Institute

Cedazuridine

According to the NCI website Cadazuridine is an orally available synthetic nucleoside analog derived from tetrahydrouridine (THU) and cytidine deaminase inhibitor (CDAi), that can potentially be used to prevent the breakdown of cytidines. Upon oral administration, cedazuridine binds to and inhibits CDA, an enzyme primarily found in the gastrointestinal (GI) tract and liver that catalyzes the deamination of cytidine and cytidine analogs. Given in combination with a cytidine, such as the antineoplastic hypomethylating agent decitabine, it specifically prevents its breakdown and increases its bioavailability and efficacy. This also allows for lower doses of decitabine, which results in a decreased decitabine-associated GI toxicity. Check for active clinical trials using this agent.

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

Cediranib

According to the NCI website the maleate salt of cediranib is an indole ether quinazoline derivative with antineoplastic activities. Competing with adenosine triphosphate, cediranib binds to and inhibits all three vascular endothelial growth factor receptor (VEGF-1,-2,-3) tyrosine kinases, thereby blocking VEGF-signaling, angiogenesis, and tumor cell growth.

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

Introduction to Small Molecule Tyrosine Kinase Inhibitors presented by OncoLink

Tyrosin Kinase Inhibitor

Cemiplimab – LIBTAYO®

According to the NCI website cemiplimab is a human monoclonal antibody directed against the negative immunoregulatory human cell surface receptor programmed cell death 1 (PD-1, PCD-1) protein, with potential immune checkpoint inhibitory and antineoplastic activity. Upon administration, cemiplimab-rwlc binds to PD-1, inhibits its binding to the PD-1 ligand programmed cell death-1 ligand 1 (PD-L1), and prevents the activation of its downstream signaling pathways. This may restore immune function through the activation of cytotoxic T cells. PD-1, a transmembrane protein in the immunoglobulin superfamily expressed on activated T cells, negatively regulates T-cell activation and effector function when activated by its ligand; it plays an important role in tumor evasion from host immunity. Check for active clinical trials using this agent.

Indikationen/Anwendungsmöglichkeiten gemäss SWISSMEDIC

- Libtayo ist indiziert als Monotherapie zur Behandlung von Patienten mit metastasiertem kutanem Plattenepithelkarzinom oder lokal fortgeschrittenem kutanem Plattenepithelkarzinom, die für eine kurative Operation oder kurative Strahlentherapie nicht in Betracht kommen.

Libtayo Monotherapie

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

Wiki

Link zu PharmaWiki
Link to Physicians Desk Reference (PDR)
Link to European Medicines Agency (EMEA)
Info for Patients presented by Scott Hamilton from Chemocare.com

Ceralasertib

According to the NCI website, Ceralasertib is an orally available morpholino-pyrimidine-based inhibitor of ataxia telangiectasia and rad3 related (ATR) kinase, with potential antineoplastic activity. Upon oral administration, ceralasertib selectively inhibits ATR activity by blocking the downstream phosphorylation of the serine/threonine protein kinase CHK1. This prevents ATR-mediated signaling, and results in the inhibition of DNA damage checkpoint activation, disruption of DNA damage repair, and the induction of tumor cell apoptosis. In addition, AZD6738 sensitizes tumor cells to chemo- and radiotherapy. ATR, a serine/threonine protein kinase upregulated in a variety of cancer cell types, plays a key role in DNA repair, cell cycle progression and survival; it is activated by DNA damage caused during DNA replication-associated stress. Check for active clinical trials using this agent. (NCI Thesaurus)

Link to National Cancer Institute

Cerdulatinib

According to WIKI Cerdulatinib is a small molecule SYK/JAK kinase inhibitor in development for

treatment of hematological malignancies.

More Information in English:

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

Ceritinib - ZYKADIA®

Ceritinib - Zykadia® ist ein oral verfügbarer Inhibitor der Rezeptor-Tyrosinkinase-Aktivität der anaplastischen Lymphomkinase (ALK) mit antineoplastischer Aktivität. Bei der Verabreichung, bindet Ceritinib an die Wildtyp-ALK-Kinase, ALK-Fusionsproteine und ALK Punktmutation Varianten und hemmt sie. Die Inhibition von ALK führt sowohl zur Unterbrechung der ALK-vermittelte Signalisierung und zur Hemmung des Zellwachstums in ALK-überexprimierende Tumorzellen. ALK gehört zur Insulinrezeptor-Superfamilie und spielt eine wichtige Rolle bei der Entwicklung des Nervensystems. Die ALK Dysregulation und Gen-Rearrangements werden mit einer Vielzahl von Tumorzelltypen in Verbindung gebracht.

Indikationen/Anwendungsmöglichkeiten gemäss Fachinformation von Compendium.ch®:

Zykadia ist für die Therapie von Patienten mit einem lokalen fortgeschrittenen oder metastasierenden ALK- (anaplastische Lymphomkinase) positivem nicht-kleinzelligen Lungenkarzinom (NSCLC) indiziert.

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

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:

Link to MedlinePlus
Info for Patients presented by Scott Hamilton from Chemocare.com

ALK Inhibitor

Cetuximab - ERBITUX®

According to the NCI website Cetuximab is a recombinant, chimeric monoclonal antibody directed against the epidermal growth factor (EGFR) with antineoplastic activity. Cetuximab binds to the extracellular domain of the EGFR, thereby preventing the activation and subsequent dimerization of the receptor; the decrease in receptor activation and dimerization may result in an inhibition in signal transduction and anti-proliferative effects. This agent may inhibit EGFR-dependent primary tumor growth and metastasis. EGFR is overexpressed on the cell surfaces of various solid tumors.

Indikationen/Anwendungsmöglichkeiten gemäss Arzneimittelkompendium:

Zur Behandlung von Patienten mit EGFR (epidermal growth factor receptor) exprimierendem metastasiertem Kolorektalkarzinom mit RAS Wildtyp:

- in Kombination mit FOLFIRI oder FOLFOX

- als Monotherapie, wenn eine Therapie auf Oxaliplatin- und Irinotecan-Basis versagt hat oder eine Irinotecan Intoleranz vorliegt.

In Kombination mit Radiotherapie zur Behandlung von Patienten mit lokal fortgeschrittenem Plattenepithelkarzinom im Kopf-Hals-Bereich.

In Kombination mit Cisplatin und 5-Fluorouracil zur Behandlung von Patienten mit rezidivierendem und/oder metastasiertem Plattenepithelkarzinom im Kopf-Hals-Bereich.

Link to National Cancer Institute
Link to Wikipedia
Link zu PharmaWiki
Link to Physicians Desk Reference (PDR)
Link to European Medicines Agency (EMEA)
Link zur Fachinformation des Arzneimittel-Kompendium der Schweiz
Info for Patients presented by Scott Hamilton from Chemocare.com

Monoclonal antibodies for tumors
Monoclonal Antibodies

Chlorambucil - LEUKERAN®

Leukeran® According to the NCI website Chlorambucil is an orally-active antineoplastic aromatic nitrogen mustard. Chlorambucil alkylates and cross-links DNA during all phases of the cell cycle, resulting in disruption of DNA function, cell cycle arrest, and apoptosis.

Indikationen/Anwendungsmöglichkeiten gemäss Arzneimittelkompendium:
Morbus Hodgkin, Non-Hodgkin-Lymphom, chronische lymphatische Leukämie und Morbus Waldenström.

Link zur Fachinformation des Compendiums®:

Merkblatt für Patientinnen und Patienten

Link to National Cancer Institut
Link to Wikipedia
Link zu PharmaWiki

Link to Physicians Desk Reference (PDR)
Info for Patients presented by Scott Hamilton from Chemocare.com

Alkylating Agents

cinrebafusp alfa (PRS-343)

According to the NCI website, cinrebafusp alfa is a bivalent, bispecific fusion protein comprised of an anti-human epidermal growth factor receptor (HER2) monoclonal antibody linked to a CD137-targeting anticalin with potential immunostimulatory and antineoplastic activities. Upon administration of cinrebafusp alfa, CD137 clustering is promoted by bridging CD137-positive T cells with HER2-positive tumor cells, leading to the recruitment of tumor antigen-specific cytotoxic T-lymphocytes (CTLs). This may result in potent CTL-mediated lysis of HER2-expressing tumor cells. HER2 plays a key role in tumor cell proliferation and tumor vascularization. CD137 is a costimulatory immunoreceptor and a member of the tumor necrosis factor receptor superfamily (TNFRSF). Anticalins are synthetic antigen-binding proteins derived from lipocalins. Structurally dissimilar to antibodies, anticalins are able to bind to smaller antigens and exhibit improved tissue penetration. Check for active clinical trials using this agent. (NCI Thesaurus)

More Information in English:

Inxight: Drugs (NIH)

AdisInsight
Link to National Cancer Institute

Cisplatin - Cisplatin®

According to the NCI website Cisplatin is an inorganic platinum agent (cis-diamminedichloroplatinum) with antineoplastic activity. Cisplatin forms highly reactive, charged,

platinum complexes which bind to nucleophilic groups such as GC-rich sites in DNA, inducing intrastrand and interstrand DNA cross-links, as well as DNA-protein cross-links. These cross-links result in apoptosis and cell growth inhibition.

Indikationen gemäss Compendium.ch®

- Kombinationstherapie bei metastasierendem Hodenkarzinom, metastasierendem Ovarialkarzinom, Plattenepithelkarzinom im ORL-Bereich nach Resektion und/oder Strahlentherapie, Osteosarkom und kleinzelligem oder nichtkleinzelligem Lungenkarzinom in Ergänzung zur Operation oder Strahlentherapie.
- Monotherapie bei Ovarialkarzinom nach Rezidiv auf nicht-cisplatinhaltige Vortherapie.
- Monotherapie oder Kombinationstherapie bei Blasenkarzinom, wenn eine lokale Behandlung nicht mehr in Frage kommt.
- Eine palliative Therapie mit Cisplatin ist als Mono- oder Kombinationstherapie bei Zervixkarzinom, Prostatakarzinom, Ösophaguskarzinom, Lymphomen, Sarkomen und malignem Melanom angezeigt, wenn andere Therapiemöglichkeiten nicht in Frage kommen.

Link zur Fachinformation des Compendiums®

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 MedlinePlus, 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)

Info for Patients presented by Scott Hamilton from Chemocare.com

Alkylating Agents

Cixutumab

According to the NCI website cixutumab is a fully human IgG1 monoclonal antibody directed against the human insulin-like growth factor-1 receptor (IGF-1R) with potential antineoplastic activity. Cixutumumab selectively binds to membrane-bound IGF-1R, thereby preventing the binding of the natural ligand IGF-1 and the subsequent activation of PI3K/AKT signaling pathway. Downregulation of the PI3K/AKT survival pathway may result in the induction of cancer cell apoptosis and may decrease cancer cellular proliferation.

Link zu Wiki

Link to National Cancer Institute

Monoclonal antibodies for tumors
Monoclonal Antibodies

Cladribine - LITAK Inj Lös 10 mg/5ml/

According to the NCI Leustatin®/Litak® 10/ Cladribine is a purine nucleoside antimetabolite analogue. Cladribine triphosphate, a phosphorylated metabolite of cladribine, incorporates into DNA, resulting in single-strand breaks in DNA, depletion of nicotinamide adenine dinucleotide (NAD) and adenosine triphosphate (ATP), and apoptosis. Because this agent is resistant to adenosine deaminase, an enzyme that inactivates some antineoplastic agents, it is selectively toxic to lymphocytes and monocytes which exhibit little deoxynucleotide deaminase activity.

Indikationen/Anwendungsmöglichkeiten gemäss Arzneimittelkompendium:

Behandlung der Haarzell-Leukämie.

Kann als Zweitlinien-Therapie bei refraktären niedrigmalignen lymphoproliferativen Erkrankungen (follikuläre und diffuse Non-Hodgkin-Lymphome, chronisch lymphatische Leukämie und Morbus Waldenström) angewendet werden.

Link zur Fachinformation des Compendiums®

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

Link zu Wiki

Link zu PharmaWiki
Link to Physicians Desk Reference (PDR)
Link to European Medicines Agency (EMEA)
Info for Patients presented by Scott Hamilton from Chemocare.com

Alkylating Agents

Clarithromycin

Klacid® plus diverse GenerikaIndikationen:

According to the NCI website clarithromycin is a semisynthetic 14-membered ring macrolide antibiotic. Clarithromycin binds to the 50S ribosomal subunit and inhibits RNA-dependent protein synthesis in susceptible organisms. Clarithromycin has been shown to eradicate gastric MALT (mucosa-associated lymphoid tissue) lymphomas, presumably due to the eradication of tumorigenic Helicobacter pylori infection. This agent also acts as a biological response modulator, possibly inhibiting angiogenesis and tumor growth through alterations in growth factor expression.

Link to National Cancer Institute

Link to Wikipedia

Link zu PharmaWiki

Link to Physicians Desk Reference (PDR)

Link zur Fachinformation des Arzneimittel-Kompendium der Schweiz

Clodronat

According to the NCI website Clodronat (Bonefos®) is a first-generation bisphosphonate with anti-resorptive and anti-hypercalcemic activities. Clodronic acid adsorbs onto the surface of the hydroxyapatite crystals in bone matrix. Although the exact mechanism through which clodronic acid exerts its cytotoxic effect on osteoclasts has yet to be fully elucidated, this agent is metabolized intracellularly to a toxic beta-gamma-methylene analog of adenosine triphosphate (ATP), AppCCl2p. The ATP analog AppCCl2p competitively inhibits ADP/ATP translocase, thereby interfering with mitochondrial membrane potential and cellular energy metabolism. This may cause osteoclast apoptosis and, eventually, inhibiting osteoclast-mediated bone resorption.

Indikationen/Anwendungsmöglichkeiten gemäss Arzneimittelkompendium:
Osteolyse infolge von Knochenmetastasen solider Tumoren (z.B. Mamma-, Prostata- oder Schilddrüsen-Karzinom) oder infolge hämatologischer Neoplasien (z.B. Plasmozytom).
Hyperkalzämie infolge ausgedehnter Knochenmetastasierung oder durch maligne Tumoren induzierte Knochenzerstörung ohne Knochenmetastasen.

Link to National Cancer Institute
Link to Wikipedia
Link zu PharmaWiki
Link zur Fachinformation des Arzneimittel-Kompendium der Schweiz

Clofarabine

According to the NCI clofarabine is a second generation purine nucleoside analog with antineoplastic activity. Clofarabine is phosphorylated intracellularly to the cytotoxic active 5'-triphosphate metabolite, which inhibits the enzymatic activities of ribonucleotide reductase and DNA polymerase, resulting in inhibition of DNA repair and synthesis of DNA and RNA. This nucleoside analog also disrupts mitochondrial function and membrane integrity, resulting in the release of pre-apoptotic factors, including cytochrome C and apoptotic-inducing factor, which activate apoptosis.

Indikationen/Anwendungsmöglichkeiten gemäss PharmaWiki:
Akute lymphoblastische Leukämie (ALL) bei pädiatrischen Patienten

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
Link zu PharmaWiki
Link to Physicians Desk Reference (PDR)
Link to European Medicines Agency (EMEA)

Antimetaboliten

CLR 131

According to the NCI website the phospholipid ether-drug conjugate CLR 131 is a radiopharmaceutical composed of a mixture of proprietary phospholipid ethers (CLR 1404) that are covalently linked to the cytotoxic radioisotope iodine I 131 (iodine-131), with potential antineoplastic activity. Upon administration of CLR 131, the phospholipid ether (PLE) moiety is selectively taken up by lipid raft microdomains expressed on tumor cells and accumulates in the cytoplasm of tumor cells;. CLR 131 is not taken up by normal, healthy cells. This delivers cytotoxic iodine I 131 directly to and induces cell death in tumor cells. PLEs allows for targeted delivery of the radioisotope. Check for active clinical trials using this agent.

CLR 131 receives FDA fast track designation in relapsed/refractory multiple myeloma

References (provided by MultipleMyelomaHub on its website)

1. Cellectar Receives FDA Fast Track Designation For CLR 131 In Relapsed Or Refractory Multiple Myeloma. https://myelomabeacon.org/pr/2019/05/13/clr131-fast-track-designation-us-fda/[accessed 2019 May 13]
2. Study of CLR 131 in Relapsed or Refractory Select B-Cell Malignancies (CLOVER-1). https://clinicaltrials.gov/ct2/show/NCT02952508[accessed 2019 May 13]
3. Cellectar Reports Positive Top-line Response Rate of 30% from R/R Multiple Myeloma Cohort in Ongoing Phase 2 Study of CLR 131. https://globenewswire.com/news-release/2019/02/25/1741555/0/en/Cellectar-Reports-Positive-Top-line-Response-Rate-of-30-from-R-R-Multiple-Myeloma-Cohort-in-Ongoing-Phase-2-Study-

of-CLR-131.html[accessed 2019 May 13]
4. Fast
Track. https://www.fda.gov/patients/fast-track-breakthrough-therapy-accelerated-approval-priority-review/fast-track[accessed 2019 May 13]

Cobimetinib - COTELLIC®

Cobimetinib - Cotellic® ist ein oral bioverfügbarer niedermolekularer Inhibitor der MAP-Kinase-Kinase 1 (MAP2K1 oder MEK1), mit einer potentiellen antineoplastischen Aktivität. Cobimetinib bindet spezifisch an MEK1 und hemmt die katalytische Aktivität von MEK1, was zu einer Hemmung der extrazellulären signalbezogene Kinase 2 (ERK2), Phosphorylierung und Aktivierung führt und damit zu einer verringerten Tumorzellproliferation. Präklinische Studien haben gezeigt, dass dieses Mittel bei der Hemmung des Wachstums von Tumorzellen wirksam ist, die eine B-RAF-Mutation tragen, die mit vielen Tumorarten assoziiert ist. Als Threonin-Tyrosin-Kinase und als Schlüsselkomponente des RAS/RAF/MEK/ERK-Signalwegs, der häufig in menschlichen Tumoren aktiviert ist, ist MEK1 zur Übertragung von wachstumsfördernde Signalen von zahlreichen Rezeptor-Tyrosin-Kinasen erforderlich.

Indikationen/Anwendungsmöglichkeiten gemäss Kompendium:

Cobimetinib (Cotellic®) ist zur Anwendung in Kombination mit Zelboraf zur Behandlung von Patienten mit nicht reserzierbarem oder metastasiertem Melanom mit BRAF-V600-Mutation indiziert.

Merkblätter für Patientinnen und Patienten

Link zur Fachinformation von Compendium.ch®:

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 European Medicines Agency (EMEA)

More Information for Patients:

Link to MedlinePlus, a service of the U.S. National Library of Medicine, National Institutes of Health
Info for Patients presented by Scott Hamilton from Chemocare.com

MEK Inhibitor

Codrituzumab

According the The IUPHAR/BPS Guide to PHARMACOLOGY Codrituzumab is the first-in-class, recombinant, humanized monoclonal antibody which binds to glypican-3 (GPC3). GPC3 is an oncofetal protein highly expressed in hepatocellular carcinoma (HCC) cells [1,3-4]. The anti-GPC3 antibody has been modified to carry fewer fucose sugar chains with the aim of increasing its cytotoxic activity, and therefore improving its inhibitory effect on cell growth, providing an enhanced anticancer agent.

The IUPHAR/BPS Guide to PHARMACOLOGY

Copanlisib - Aliqopa (USA)

According to the NCI website Copanlisib is a phosphoinositide 3-kinase (PI3K) inhibitor with potential antineoplastic activity. Copanlisib inhibits the activation of the PI3K signaling pathway, which may result in inhibition of tumor cell growth and survival in susceptible tumor cell populations. Activation of the PI3K signaling pathway is frequently associated with tumorigenesis and dysregulated PI3K signaling may contribute to tumor resistance to a variety of antineoplastic agents.

Indication according to the PDR:

- **Used in adults with relapsed follicular lymphoma**
  Severe hyperglycemia and hypertension have been reported

Link to Physicians Desk Reference (PDR)
Link to European Medicines Agency (EMEA)

Link to National Cancer Institute

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

The IUPHAR/BPS Guide to PHARMACOLOGY

Link to Wiki

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

CPI-0610

According to the NCI website, the BET inhibitor CPI-0610 is a small molecule inhibitor of the Bromodomain and Extra-Terminal (BET) family of proteins, with potential antineoplastic activity. Upon administration, the BET inhibitor CPI-0610 binds to the acetylated lysine recognition motifs on the bromodomain of BET proteins, thereby preventing the interaction between the BET proteins and acetylated histone peptides. This disrupts chromatin remodeling and gene expression. Prevention of the expression of certain growth-promoting genes may lead to an inhibition of tumor cell growth. Characterized by a tandem repeat of two bromodomains at the N-terminus, the BET proteins (BRD2, BRD3, BRD4 and BRDT) are transcriptional regulators that play an important role during development and cellular growth. 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

BET inhibitors

Crenolanib

According to the NCI website Crenolanib is an orally bioavailable small molecule, targeting the platelet-derived growth factor receptor (PDGFR), with potential antineoplastic activity. Crenolanib binds to and inhibits PDGFR, which may result in the inhibition of PDGFR-related signal transduction pathways, and, so, the inhibition of tumor angiogenesis and tumor cell proliferation. PDGFR, up-regulated in many tumor cell types, is a receptor tyrosine kinase essential to cell migration and the development of the microvasculature. Check for active clinical trials using this agent.

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

Tyrosin Kinase Inhibitor

Crizanlizumab tmca - Adakveo® (USA)

According to the NCI website, Crizanlizumab is a humanized monoclonal immunoglobulin G1 anti-P-selectin antibody with vaso-protective and anti-vaso-occlusive properties. Upon administration, crizanlizumab binds to P-selectin and blocks its interaction with P-selectin glycoprotein ligand-1 (PSGL-1; SELPLG) on neutrophils and monocytes. P-selectin, a glycoprotein that functions as a cell adhesion molecule (CAM), translocates to the surface of activated endothelial cells and platelets, upon stimulation, where it binds to its ligand and mediates the rolling of platelets and neutrophils on activated endothelial cells. Therefore, blockade of p-selectin may inhibit platelet aggregation, maintain blood flow and minimize sickle cell-related pain crises (SCPC). Check for active clinical trials using this agent. (NCI Thesaurus)

Indikationen/Anwendungsmöglichkeiten gemäss PDR:

- Used to reduce the frequency of vasoocclusive crises in patients with sickle cell disease
  Monitor for infusion-related reactions and interference with automated platelet counts

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

Wiki
Link to Physicians Desk Reference (PDR)
Link to European Medicines Agency (EMEA)

Crizotinib - XALKORI®

Crizotinib - Xalkori® ist ein oral verabreichbarer Aminopyridin-basierter Inhibitor der Rezeptor-Tyrosinkinase anaplastischen Lymphomkinase (ALK) und des c-Met/Hepatocyten-Wachstumsfaktor-Rezeptor s(HGFR) mit antineoplastischer Aktivität. Crizotinib bindet in ATP-kompetitiver Weise an ALK und hemmt die ALK-Kinase und ALK-Fusionsproteine. Darüber hinaus hemmt Crizotinib die c-Met-Kinase und unterbricht den c-Met-Signalweg. Insgesamt hemmt dieses Mittel das Tumorwachstum. ALK gehört zur Insulinrezeptor-Superfamilie und spielt eine wichtige Rolle bei der Entwicklung des Nervensystems. ALK Dysregulation und Gen-Rearrangements sind mit einer Reihe von Tumoren vergesellschaftet.

Indikationen/Anwendungsmöglichkeiten gemäss Compendium.ch®:

- Xalkori ist für die first-line Behandlung von Patienten mit anaplastic lymphoma kinase (ALK)-positivem, fortgeschrittenem, nicht-kleinzelligem Lungenkarzinom (NSCLC) indiziert.
- Xalkori ist für die Behandlung von Patienten mit vorbehandeltem ALK-positivem, fortgeschrittenem, nicht-kleinzelligem Lungenkarzinom (NSCLC) indiziert.
- Xalkori ist für die Behandlung von Patienten mit ROS1-positivem, fortgeschrittenem, nicht-kleinzelligem Lungenkarzinom (NSCLC) indiziert.

Merkblätter für Patientinnen und Patienten

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 European Medicines Agency (EMEA)
Link to Physicians Desk Reference (PDR)

More Information for Patients:

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

Info for Patients presented by Scott Hamilton from Chemocare.com

Tyrosin Kinase Inhibitor

CT103A

According to the MultipleMyelomaHub CT103A is a chimeric antigen receptor (CAR) T-cell therapy that targets B-cell maturation antigen (BCMA) which is found on the surface of myeloma plasma cells. It contains a fully-human BCMA antibody, designed to reduce the toxic side effects often induced by non-human constructs.

References provided by *the MultipleMyelomaHub on its* website***:***

1. Business Wire. NMPA Approves IND Application for CT103A, a Fully-human BCMA CAR-T for the Treatment of Relapsed/Refractory Multiple Myeloma Co-developed by IASO BIO and Innovent Biologics.https://www.businesswire.com/news/home/20191002005214/en [Accessed 2019 Oct 10]
2. Chinese Regulatory Agency Clears CT103A for Clinical Studies in Relapsed or Refractory Multiple Myeloma.https://myelomaresearchnews.com/2019/10/09/ct103a-cleared-clinical-studies-relapsed-refractory-mm-in-china/[Accessed 2019 Oct 10]
3. Chinese Clinical Trial Registry. An open-label, single-center and single-arm clinical study of infusion of anti-BCMA CAR-T cells for patients with relapsed or refractory plasma cell malignancies.http://www.chictr.org.cn/showprojen.aspx?proj=30653 [Accessed 2019 Oct 10]
4. Wang J.*et al.*, Clinical Responses and Pharmacokinetics of fully-human BCMA targeting CAR T Cell Therapy in Relapsed/Refractory Multiple Myeloma. XVII International Myeloma Workshop (IMW). 2019 Sep 14. Abstract #OAB-033

Cyclophosphamid - ENDOXAN®

Cyclophosphamid ist ein synthetisches Alkylierungsmittel, das chemisch mit Stickstoff-Senf verwandt ist. Es zeigt antineoplastische und immunsuppressive Wirkungen. In der Leber wird Cyclophosphamid zu den aktiven Metaboliten Aldophosphamid und Phosphoramid-Senf umgewandelt. Diese binden sich an die DNA, wodurch die DNA-Replikation gehemmt und der Zelltod eingeleitet wird.

Indikationen/Anwendungsmöglichkeiten gemäss Arzneimittelkompendium:

Tumortherapie
Endoxan wird im Rahmen einer Polychemotherapie oder als Monotherapie eingesetzt bei:
– Akuten lymphatischen und myeloischen Leukämien.
– Morbus Hodgkin, Non Hodgkin-Lymphomen, Plasmozytom.
– Metastasierenden und nicht-metastasierenden malignen soliden Tumoren: Ovarialkarzinom, Seminom, Mammakarzinom, kleinzelligem Bronchialkarzinom, Neuroblastom, Ewing-Sarkom.

Merkblätter für Patientinnen und Patienten

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

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 to Wikipedia
Link zu PharmaWiki
Link to Physicians Desk Reference (PDR)

More Information for Patients:

Link to MedlinePlus, a service of the U.S. National Library of Medicine, National Institutes of Health
Info for Patients presented by Scott Hamilton from Chemocare.com

Alkylating Agents

Cytarabine - CYTOSAR Solution

ECytosar® Solution/Cytarabin Sandoz®/DepoCyte®; According to the NCI liposomal cytarabine is a liposomal intrathecal formulation of the antimetabolite cytarabine. Cytarabine An antimetabolite analogue of cytidine with a modified sugar moiety (arabinose instead of ribose). As an S-phase-specific antimetabolite, cytarabine is phosphorylated by deoxycytidine kinase to a triphosphate form which competes with thymidine for incorporation into DNA; the incorporation of cytarabine triphosphate into DNA appears to inhibit DNA polymerase and so DNA synthesis, resulting in cell death.

Indikationen/Anwendungsmöglichkeiten gemäss Compendium®:

- Remissionseinleitung und -erhaltung in Kombination mit anderen Zytostatika bei akuter

myeloischer Leukämie von Erwachsenen und Kindern.
- Behandlung der akuten lymphatischen Leukämie, der lymphatischen Blastenkrise der chronisch-myeloischen Leukämie sowie der Erythroleukämie. Cytosar Solution kann allein oder in Kombination mit anderen Zytostatika angewendet werden.
- Bei Kindern mit Non-Hodgkin-Lymphom in Kombination mit anderen Zytostatika.
- Hochdosistherapie bei akuter Leukämie.
- Intrathekale Prophylaxe und Therapie der Meningeosis leucämica alleine oder in Kombination mit Hydrokortisonnatriumsuccinat und Methotrexat.

Link zur Fachinformation des Compendium®

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

Cytarabine:
Link to National Cancer Institute

liposomal cytarabine:
Link to National Cancer Institute

Link zu Wiki

Link zu PharmaWiki

Link to Physicians Desk Reference (PDR)

Liposomal combination of cytarabine and daunorubicin for the treatment of acute myeloid leukemia:
Link to European Medicines Agency (EMEA)

DepoCyte 50 mg suspension for injection:
Link to European Medicines Agency (EMEA)

Info for Patients presented by Scott Hamilton from Chemocare.com

Antimetaboliten