

Drug	Organism	Malignancies which are treated	Mechanism
Bleomycin sulfate	<i>Streptomyces verticillus</i>	Hodgkin lymphoma, Non-Hodgkin lymphoma, Squamous cell carcinoma of the penis, Squamous cell carcinoma of the cervix, Squamous cell carcinoma of the head and neck, Squamous cell carcinoma of the vulva, Testicular cancer, Malignant pleural effusion	Induced of DNA strand breaks
Cabazitaxel	Semi-synthetic derivative of a natural taxoids	Prostate cancer	Inhibitor of microtubule dynamics
Dactinomycin	<i>Streptomyces parvulus</i>	Ewing sarcoma Gestational trophoblastic disease Rhabdomyosarcoma Solid tumors Testicular cancer Wilms tumor	Inhibitor of transcription
Daunorubicin hydrochloride	<i>Streptomyces coeruleorubidus,</i> <i>Streptomyces peucetius</i>	Acute lymphoblastic leukemia Acute myeloid leukemia	Inhibitor of topoisomerase II
Docetaxel	Semi-synthetic analogue of paclitaxel (Taxol), which is derived from Pacific yew tree <i>Taxus brevifolia</i>	Breast cancer, Non-small cell lung cancer, Prostate cancer, Squamous cell carcinoma of the head and neck, Stomach adenocarcinoma and gastroesophageal junction adenocarcinoma	Inhibitor of microtubule dynamics
Doxorubicin hydrochloride	<i>Streptomyces coeruleorubidus</i> <i>Streptomyces peucetius</i>	Acute lymphoblastic leukemia (ALL), Acute myeloid leukemia (AML), Metastatic breast cancer, Gastric (stomach) cancer, Hodgkin lymphoma, Neuroblastoma, Non-Hodgkin lymphoma, Non-small cell lung cancer, Ovarian cancer, Small cell lung cancer, Soft tissue and bone sarcomas, Thyroid cancer, Bladder cancer, Kaposi's sarcoma, Wilms tumors, and others	Inhibits topoisomerase II
Eribulin (Halaven)	Fully synthetic macrocyclic ketone analogue of the marine natural product halichondrin B (<i>Halichondria okadai</i>)	Breast cancer Liposarcoma	Inhibitor of microtubule dynamics
Etoposide	Semisynthetic derivative of podophyllotoxin, a natural compound from root of <i>Podophyllum peltatum</i>	Small cell lung cancer, Testicular Cancer, Non-small Cell Lung Cancer, Hodgkin's Disease, Acute Myeloid Leukemia, Acute Lymphocytic Leukemia, Wilms' Tumor, Neuroblastoma, Kaposi's Sarcoma	Inhibitor of topoisomerase II
Everolimus	<i>Streptomyces hygroscopicus</i>	Breast cancer, Pancreatic cancer, Gastrointestinal cancer, Lung cancer, Renal cell carcinoma, Subependymal giant cell astrocytoma	Inhibitor of mTOR
Idarubicin hydrochloride	Semi-synthetic 4-demethoxy analogue of the antineoplastic anthracycline antibiotic daunorubicin	Acute myeloid leukemia (AML)	Inhibitor topoisomerase II,

Irinotecan hydrochloride	Semisynthetic derivative of natural compound camptothecin which is found in the <i>Camptotheca acuminata</i>	Colorectal cancer, Pancreatic cancer	Inhibitor topoisomerase I
Ixabepilone	Ixabepilone is a semi-synthetic analog of epothilone B, a natural chemical compound produced by <i>Sorangium cellulosum</i>	Breast cancer	Inhibitor of microtubule dynamics
Leucovorin calcium (Folinic acid)	Was discovered as growth factor required for the bacterium <i>Leuconostoc citrovorum</i>	Colorectal cancer Anemia	Prevent harmful effects of methotrexate. It allows some purine/pyrimidine synthesis and normal DNA replication in normal cells in the presence of dihydrofolate reductase inhibitors
Midostaurin	Semi-synthetic derivative of staurosporine, an alkaloid from the bacterium <i>Streptomyces staurosporeus</i>	Acute myeloid leukemia (AML), Aggressive systemic mastocytosis with associated hematologic neoplasm mast cell leukemia	Protein kinase inhibitor
Mitomycin	<i>Streptomyces caespitosus</i>	Gastric (stomach) and pancreatic adenocarcinoma, Urothelial cancer	DNA crosslinker
Omacetaxine mepesuccinate	Semi-synthetic derivative of homoharringtonine (HHT) - a natural plant alkaloid derived from <i>Cephalotaxus fortunei</i>	Chronic myelogenous leukemia	Inhibitor of translation
Paclitaxel	<i>Pacific yew</i>	Various cancers	Inhibitor of microtubule dynamics
Romidepsin	Natural product obtained from the bacterium <i>Chromobacterium violaceum</i>	Cutaneous T-cell lymphoma	Inhibitor of histone deacetylases
Asparaginase	Enzyme from <i>Erwinia chrysanthemi</i>	Acute lymphoblastic leukemia	Depletion of asparagine amino acid
Temsirolimus	Temsirolimus is an ester derived from rapamycin - (Sirolimus) which is a natural macrocyclic lactone produced by the bacterium <i>Streptomyces hygroscopicus</i>	Renal cell carcinoma	Inhibitor of mTOR
topotecan hydrochloride	Synthetic, water-soluble analog of the natural chemical compound camptothecin	Cervical cancer, Ovarian cancer, Small cell lung cancer	Inhibitor of topoisomerase I
Tabectedin	Semisynthetic antibiotic obtained from the bacterium <i>Pseudomonas fluorescens</i>	Liposarcoma and leiomyosarcoma	Blocks oncogenic transcription factor FUS-CHOP binding with DNA

Valrubicin	Semi-synthetic analog of the doxorubicin	Bladder cancer	Inhibitor of topoisomerase II.
Vinblastine sulfate	Madagascar periwinkle <i>Catharanthus roseus</i>	Breast cancer, Choriocarcinoma, Hodgkin lymphoma, Kaposi sarcoma, Non-Hodgkin lymphoma, Testicular germ cell tumors, other malignancies	Inhibitor of microtubule dynamics
Vincristine sulfate	Madagascar periwinkle <i>Catharanthus roseus</i>	Acute leukemia. Hodgkin lymphoma. Neuroblastoma. Non-Hodgkin lymphoma (NHL). Rhabdomyosarcoma. Wilms tumor.	Inhibitor of microtubule dynamics
Vinorelbine tartrate	Semi-synthetic derivative of vinca alkaloids	Non-small cell lung cancer	Inhibitor of microtubule dynamics