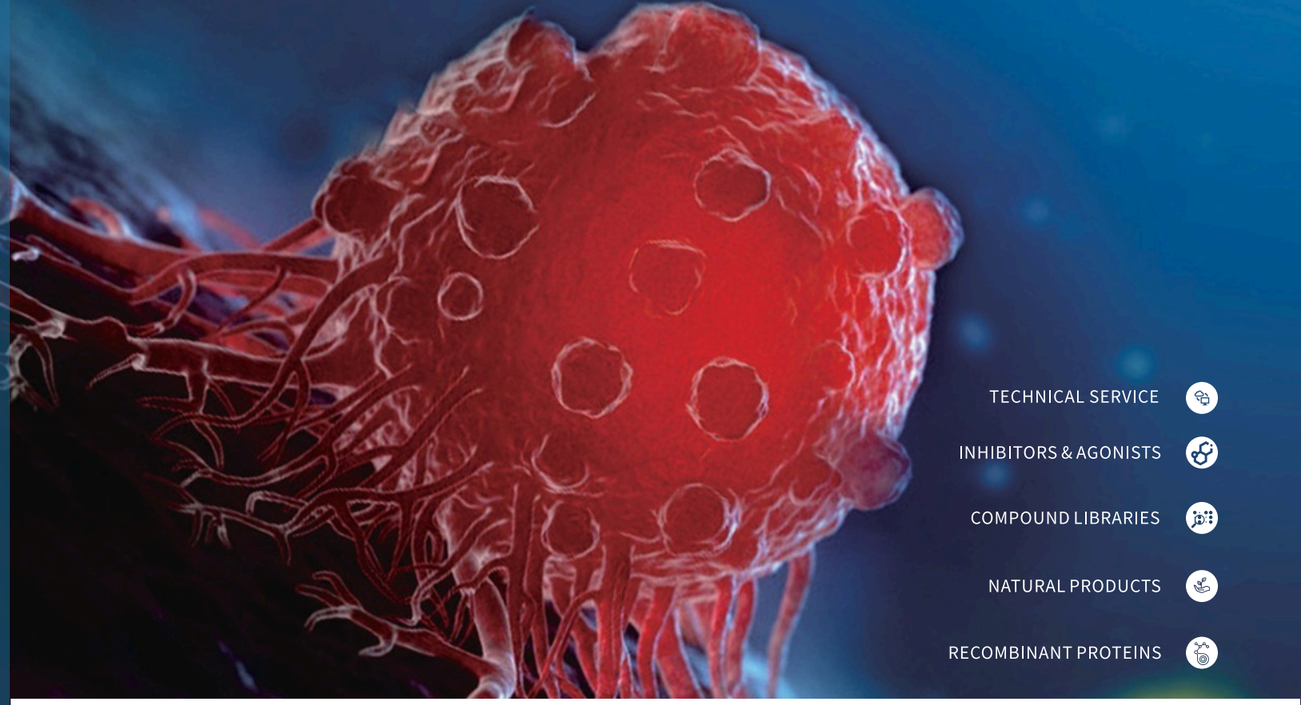
TargetMol®

YOUR TARGET MOLECULES

CANCER RESEARCH



- TECHNICAL SERVICE
- INHIBITORS & AGONISTS
- COMPOUND LIBRARIES
- NATURAL PRODUCTS
- RECOMBINANT PROTEINS

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TargetMol®

YOUR TARGET MOLECULES

INHIBITORS & AGONISTS | COMPOUND LIBRARIES | TECHNICAL SERVICE

RECOMBINANT PROTEINS | NATURAL PRODUCTS

CONTENT

Products and Services

10,000+ cancer related compounds

small molecule compounds, natural products, inhibitory inhibitors, etc.

1,000+ cancer related recombinant proteins

diverse selectable species, tags and expression systems to meet different experimental needs.

100+ cancer related compound libraries

bioactive compound libraries, natural product libraries, etc. TargetMol also provides customization service.

A variety of cancer-related kits and technical services

we provide diverse screening models to ensure reliable and trustworthy results.

WINNER

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BIOCHEMICAL SUPPLIER TO WATCH IN 2023

2023 AWARDS
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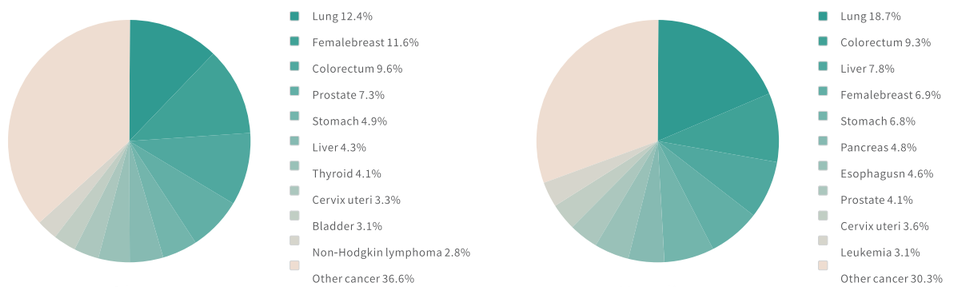
Cancer and Cancer Treatment

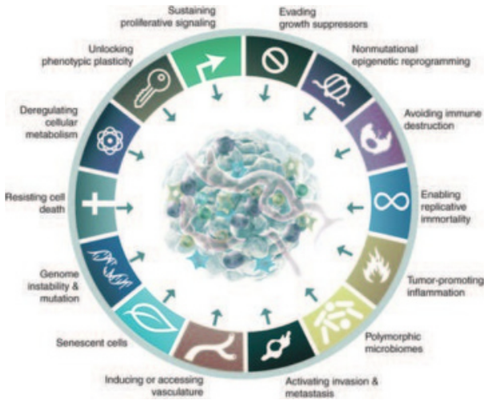
Cancer is a major disease that has a significant impact on human health and is the second most common cause of death worldwide. According to the latest global cancer statistics report published by CA: A Cancer Journal for Clinicians, nearly 20 million new cancer cases were diagnosed globally in 2022, with approximately 9.7 million cancer-related deaths. Lung cancer has the highest incidence worldwide, followed by female breast cancer, colorectal cancer, prostate cancer, and stomach cancer. The cancers with the highest mortality rates are lung cancer, colorectal cancer, liver cancer, female breast cancer, and stomach cancer.



Distribution of Cancer Incidence and Mortality in 2022 [1]

Recent research suggests that tumors possess fourteen hallmark characteristics. As our understanding of tumors deepens, cancer treatment methods continue to evolve. Currently, there are three main approaches to cancer treatment: surgery, radiation therapy, and drug therapy. Drug therapy, in particular, has undergone three major revolutions, offering more treatment options for cancer patients.

The first revolution pioneered the field of chemotherapy, with rapid development of chemotherapeutic agents such as fluorouracil, cisplatin, and paclitaxel. The second revolution introduced targeted therapy strategies, leading to the development of a series of molecularly targeted drugs based on targets like EGFR, ABL, and CDK, which are highly specific, effective, and have fewer side effects. The third revolution brought innovation in immunotherapy, with over 20 immune checkpoint inhibitors now on the market, including drugs targeting PD-1, PD-L1, and CTLA-4.



Cancer Biomarkers [2]

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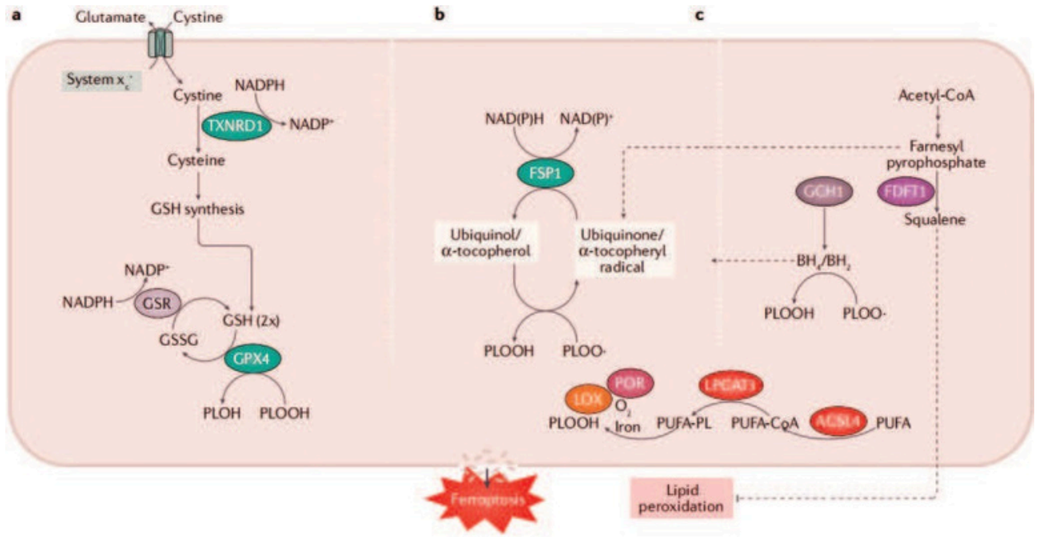
Hot Topics in Cancer Research

1. Ferroptosis

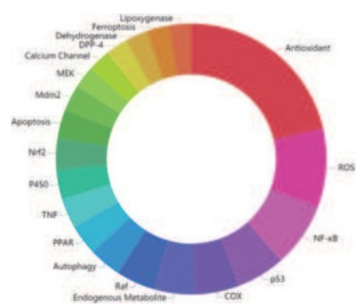
Ferroptosis is a form of cell death driven by iron-dependent phospholipid peroxidation, involving mechanisms related to redox homeostasis, iron metabolism, mitochondrial activity, and the metabolism of amino acids, lipids, and glucose. Cancer cells often exhibit multiple drug resistance, making them more susceptible to ferroptosis, particularly tumor cells in a mesenchymal state that are prone to metastasis. Therefore, regulating the induction or inhibition of ferroptosis may hold significant potential in the treatment of drug-resistant tumors.



Inhibitory Pathways of Ferroptosis [3]

Ferroptosis Compound Library —— L8700

TargetMol collects 700+ compounds related to ferroptosis signaling pathway with targets including GPX4, System Xc−, HSPB1, NRF2, VDAC2/3, Ras, TFR1, NOX, p53, CARS, ROS, SLC7A11, etc. Iron chelators and lipid peroxidation inhibitors are also included in this library. NMR and HPLC are validated to ensure high purity and quality.

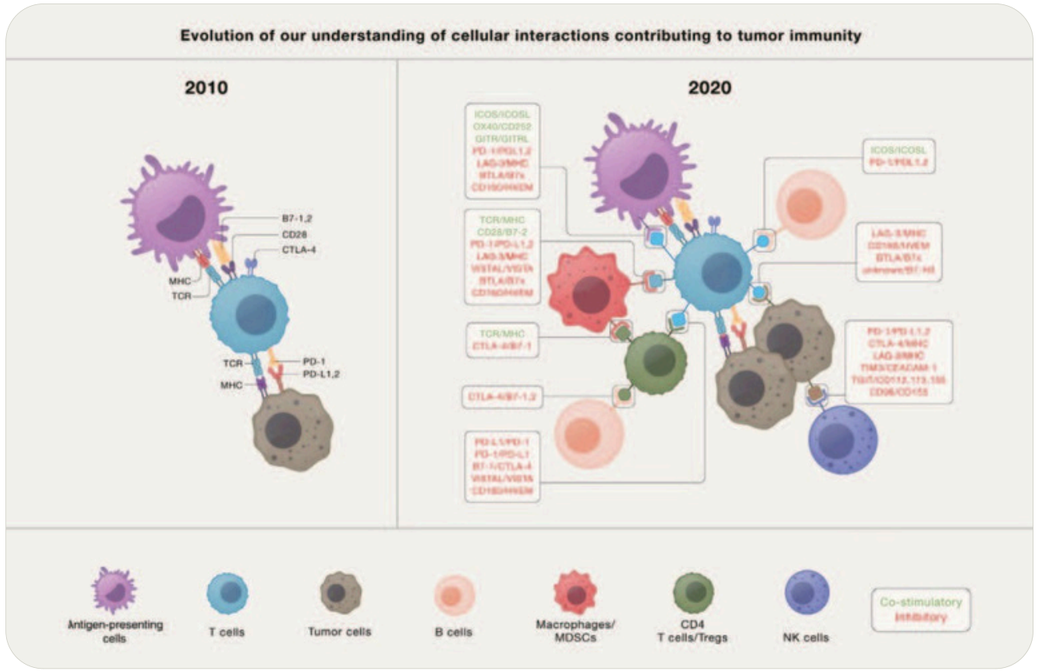


Related Compounds

Catalog No.	Product Name	Description
T1765	Erastin	Erastin is an ferroptosis activator that acts on the mitochondrial VDAC in a ROS- and iron-dependent manner. Erastin has anti-tumor activity and acts selectively on tumor cells with RAS-carcinogenic mutations.
T3646	RSL3	RSL3 (RSL3 1S) is an inhibitor of GPX4, and inhibits system xc- that blocks GSH synthesis (IC50=100 nM). RSL3 is a VDAC-independent activator of ferroptosis that is selective for tumor cells carrying oncogenic RAS.
T77745	N6F11	N6F11 is a novel, selective and potent inducer of ferroptosis with anticancer and antitumour activity that promotes GPX4 degradation by binding to TRIM25 in cancer cells.
T77755	GPX4-IN-5	GPX4-IN-5 is a small molecule covalent GPX4 inhibitor (IC50: 0.12 μM) with antitumour activity. GPX4-IN-5 induces ferroptosis and can be used for the prevention and treatment of triple-negative breast cancer (TNBC).
T4066	FIN56	FIN56 is a ferroptosis-specific inducer that binds to and activates squalene synthase, inducing ferroptosis by promoting the degradation of GPX4.
T0787	Butylhydroxyanisole	Butylhydroxyanisole is an antioxidant and a ferroptosis inducer. It can cause brain and neural development disruption and exhibits neurotoxicity.
T4309	CIL56	CIL56 (CA3) is a small molecule that induces cellular ferroptosis through the production of iron-dependent reactive oxygen species (ROS).
T5523	Imidazole Ketone Erastin	Imidazole ketone erastin (IKE) is an ferroptosis inducer with inhibitory effects on system Xc- cystine/glutamate transporter proteins. Imidazole ketone erastin has antitumor activity and induces glutathione depletion and lipid peroxidation.
T20819	Ammonium Iron(iii) Citrate	Ammonium iron(III) citrate (Ferric ammonium citrate) is a physiological form of non-ferritin-bound iron that causes intracellular iron overload leading to cellular ferroptosis and enhances protein production.
T60202	MMRi62	MMRi62 (7-[(2,3-dichlorophenyl)-(pyridin-2-ylamino)methyl]quinolin-8-ol), a ferroptosis inducer targeting MDM2-MDM4. MMRi62 shows a P53-independent pro-apoptotic activity against pancreatic ductal adenocarcinoma (PDAC) cells and induce autophagy.
T11631	iFSP1	iFSP1, a potent, selective, and glutathione-independent ferroptosis suppressor protein 1 (FSP1) (AIFM2) inhibitor with an EC50 of 103 nM, sensitizes diverse human cancer cell lines to ferroptosis inducers like (1S,3R)-RSL3.
T1637	Deferoxamine Mesylate	Deferoxamine Mesylate is an iron chelator and ferroptosis inhibitor. Deferoxamine Mesylate binds free iron into a stable complex and reduces iron accumulation. Deferoxamine Mesylate up-regulates HIF-1α levels and induces apoptosis.
T6500	Ferrostatin-1	Ferrostatin-1 (Fer-1) is a potent and selective inhibitor of ferroptosis.Ferrostatin-1 also exhibits antioxidant and antifungal activities.
T2376	Liproxstatin-1	Liproxstatin-1 is a potent and selective inhibitor of ferroptosis (IC50=22 nM). Liproxstatin-1 protects cells from ferroptosis induced by ferroptosis inducers (e.g., Erastin, RSL3).
T7092	Nadph Tetrasodium Salt	NADPH tetrasodium salt is the reduced form of the electron acceptor nicotinamide adenine dinucleotide phosphate, which acts as an electron donor in a variety of biological reactions. NADPH tetrasodium salt is also an endogenous inhibitor of ferroptosis.
T3109	SP600125	SP600125 is a JNK inhibitor with oral potency, reversibility, and ATP-competitive properties. SP600125 is also a ferroptosis inhibitor and inhibits autophagy and induces apoptosis.
T8922	SRS11-92	SRS11-92, an ferroptosis inhibitor and derivative of Ferrostatin-1, inhibits Erastin-induced ferroptosis death in HT-1080 human fibrosarcoma cells.
T9073	SRS16-86	SRS16-86 is a novel third-generation ferrostatin, is an inhibitor of ferroptosis.
T77765	FSEN1	FSEN1 is a novel and highly effective non-competitive FSP1 inhibitor. FSEN1 induces ferroptosis in cancer cells by inhibiting FSP1.
T5343	UAMC-3203	UAMC-3203 is a potent and selective ferroptosis inhibitor with an IC50 value of 12 nM.

2. Immune Checkpoint

Immune checkpoints are a class of immunosuppressive molecules expressed on immune cells that regulate the degree of immune activation. These molecules play a crucial role in preventing autoimmune reactions; however, some tumors can protect themselves from immune attack by stimulating immune checkpoint targets. Immune checkpoint blockade therapy, based on the programmed death receptor and its ligand, enhances the host immune system's aggressiveness against tumor cells by inhibiting the binding of the programmed death receptor to its ligand.



Cellular Interactions Contributing to Tumor Immunity [4]

Related Compound Libraries

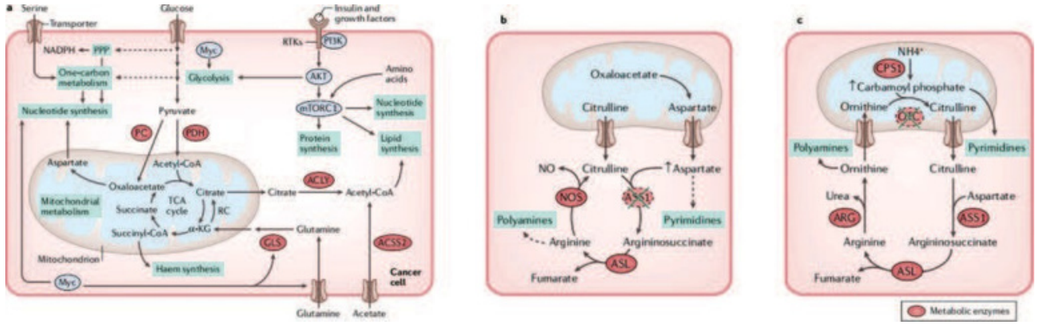
Catalog No.	Product Name	Quantity	Description
L2170	Immuno-Oncology Compound Library	400+	A collection of small molecules targeting tumor immunotherapy checkpoints, suitable for high-throughput and high-content screening, serves as a powerful tool for studying tumor immunotherapy.
	Immuno-oncology Screening Libraries	3,700+	Focusing on a range of established and emerging immuno-oncology targets, including: TDO, CD73, Arginase-1, IDO1, GCN2, and Nitric Oxide Synthase.
	PD-1/L1 Library	500+	The collection of PD-1/L1-related small molecule compounds is a useful tool for immuno-oncology research and early drug discovery.

Related Compounds

Catalog No.	Product Name	Description
T3655	BMS-1	BMS-1 (PD-1/PD-L1 inhibitor 1) is an inhibitor of the PD1-PD-L1 protein-protein interaction. It also acts as an immunomodulator.
T3146	BMS-202	BMS-202 (PD1-PDL1 inhibitor 2) is an inhibitor of the PD-1 (Programmed death- 1) /PD-Ll (Programmed death-ligand 1) protein/protein interaction.
T9616	PD-1/PD-L1-IN-10	PD-1/PD-L1-IN-10 is an orally active PD-1/PD-L1 inhibitor with an IC50 of 2.7 nM, demonstrating potent anticancer efficacy.
T9902	Atezolizumab	Atezolizumab is an antibody inhibitor, a humanized monoclonal antibody, IgG1, which targets PD-L1 and blocks the interaction of PD-L1 with PD-1. Atezolizumab has antitumor activity and promotes T-cells to attack tumor cells.
T9903	Avelumab	Avelumab, a fully human IgG1 anti-PD-L1 monoclonal antibody, exhibits potential antibody-dependent cell-mediated cytotoxicity.
T9907	Nivolumab	Nivolumab is a monoclonal antibody, a humanized IgG4 antibody to PD-1. Nivolumab has antitumor activity and is used in the treatment of melanoma, non-small cell lung cancer, renal cell carcinoma and others.
T9908	Pembrolizumab	Pembrolizumab (MK-3475) is a humanized monoclonal antibody inhibiting the PD-1 receptor and the first in the class of agents called the HER2 dimerization inhibitors that impairs the ability of HER2 to bind to other members of the HER family.
T11126	Durvalumab	Durvalumab (MEDI 4736) is a humanized monoclonal antibody targeting PD-L1. It can block the interaction of PD-L1 with PD-1 and CD80, with IC50 values of 0.1 and 0.04 nM, respectively. Durvalumab is often used in combination with platinum-based compounds for the treatment of non-small cell lung cancer and advanced hepatocellular carcinoma cells.
T37535	Camrelizumab	Camrelizumab (SHR-1210) is a human IgG4-κ monoclonal antibody with high affinity directed against PD-1, binding PD-1 with an affinity of up to 3 nM and inhibiting PD-1/PD-L1 with an IC50 of 0.70 nM.
T76750	Cemiplimab	Cemiplimab (Anti-Human PD-1) is a human monoclonal antibody that inhibits the PD-1/PD-L1 pathway, serving as a checkpoint inhibitor. It is applicable in research on metastatic cancer and squamous cell skin cancer.
T35394	Sintilimab	Sintilimab (IBI308) is a humanized IgG4 monoclonal antibody with significant anti-tumor activity that restores endogenous anti-tumor T-cell responses by binding to PD-1 and thereby blocking the interaction of PD-1 with its ligands (PD-L1 and PL-L2).
T78269	RMP1-14	RMP1-14 is an IgG1-like immunoglobulin and anti-Mouse PD-1 antibody that blocks PD-1/PD-L1 signaling.
T9906	Ipilimumab	Ipilimumab (anti-CTLA-4) is an immunomodulatory monoclonal antibody directed against the cell surface antigen CTLA-4 and also a type of immune checkpoint inhibitor.
T77466	Tremelimumab	Tremelimumab is a cytotoxic T-lymphocyte-associated antigen-4 (CTLA-4) blocking antibody.Tremelimumab is often used in combination with Durvalumab for the treatment of solid cancers such as hepatocellular carcinoma and lung cancer.
T9901A-001	Relatlimab	Relatlimab(BMS-986016) is a monoclonal antibody targeting human anti-LAG-3. Relatlimab has a blocking effect and is often used with Nivoluma to treat advanced melanoma.
T76699	Sabatolimab	Sabatolimab (MBG453), a humanized IgG4 (S228P) antibody targeting TIM-3, is a potent inhibitory receptor that regulates adaptive and innate immune responses.
T77149	Cobolimab	Cobolimab is a potent monoclonal antibody to TIM-3. Cobolimab induces internalization of TIM-3 with an IC50 value of 0.4464 nM. Cobolimab has antitumor activity and can be used to study advanced/metastatic melanoma and advanced hepatocellular carcinoma.
T35391	Vibostolimab	Vibostolimab is a monoclonal antibody against T cell immune proteins and the ITIM domain.Vibostolimab has shown anti-tumor activity in in vitro trials and can be used to study non-small cell lung cancer (NSCLC) and melanoma.
T35392	Tiragolumab	Tiragolumab is a monoclonal antibody that targets T-cell immunoglobulin and the ITIM structural domain.Tiragolumab is often used in combination with the PD-L1 inhibitor, Atezolizumab, to treat solid malignant tumors such as non-small cell lung cancer.
T76696	Onvatilimab	Onvatilimab is a human IgG1 κ-anti-Vista (T-cell-activated V-domain Ig inhibitor) monoclonal antibody with antitumor activity, potentially used for treating advanced head and neck cancers.

3. Metabolism

Metabolic reprogramming is both a consequence of tumor development and a significant driver of tumor progression, having a critical impact on cancer treatment. During this process, tumor cells actively and adaptively alter the flux of various metabolic pathways to meet their energy production and biosynthetic demands while mitigating oxidative stress. When metabolic byproducts accumulate abnormally, they can also promote tumorigenesis (e.g., IDH mutant tumors). Over the past few decades, researchers have uncovered numerous new metabolic pathways that sustain tumor growth.



Metabolic Signaling Pathways that Support Tumorigenesis [5]

Related Compound Libraries

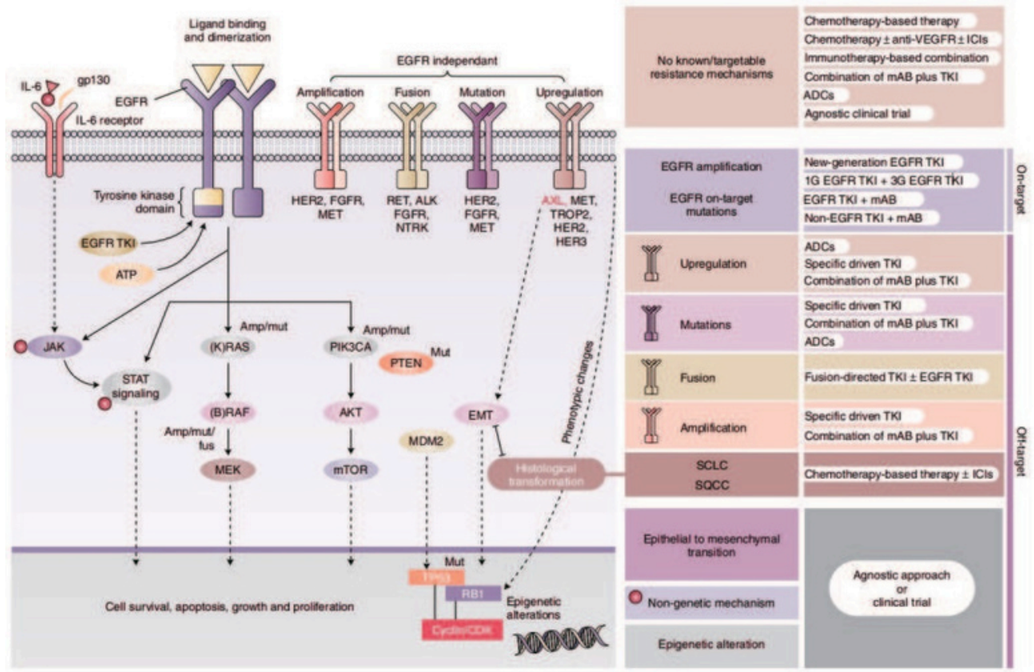
Catalog No.	Product Name	Quantity	Description
L2560	Metabolism Compound Library	2,300+	A unique collection of 2320 metabolic pathway-related bioactive small molecule compounds for high-throughput, high-content screening.Targeting multiple metabolic pathways such as gluconeogenesis, lipid metabolism, nucleotide metabolism; targets include GLUT, Hexokinase, Pyruvate Kinase; ATGL, MAGL, FAAH and other metabolism-related popular targets.
L2130	Anti-Cancer Metabolism Compound Library	1,200+	A unique collection of bioactive small molecules related to cancer cell metabolism, designed for tumor-related research and the screening of anti-tumor drugs. Suitable for high-throughput and high-content screening, this collection serves as an effective tool for studying tumorigenesis mechanisms and for screening anti-tumor drugs.
L2500	Human Endogenous Metabolite Library	500+	A unique collection of human endogenous metabolites, suitable for high-throughput and high-content screening; some products have already been commercialized or entered clinical trials, ensuring biosafety and strong bioactivity; diverse categories with detailed information.
L2520	Glycometabolism Compound Library	700+	Compounds related to glucose metabolism can be used for high-throughput and high-content screening. The action targets include glucose transporters (GLUTs), hexokinase (HK), pyruvate kinase (PK), phosphofructokinase (PFK), IDH1/2, lactate dehydrogenase (LDH), AMP-activated protein kinase (AMPK), and other glucose metabolism-related targets.
L2550	Glutamine Metabolism Compound Library	500+	A collection of compounds related to glutamine metabolism used for high-throughput and high-content screening; they are effective tools for studying glutamine metabolism and cancer. Targets include glutaminase (GLS), ASCT2, glutamate dehydrogenase, c-Myc, etc.
L7000	Bioactive Lipid Compound Library	300+	Lipid-related small molecules for high-throughput and high-content screening; targets include GPCR, HDAC, PPAR, DNA alkylating agents, EGFR, etc.
	Kynurenine Pathway Library from Enamine	12,300+	A collection of new potential active compounds targeting the tyrosine metabolism pathway can serve as a convenient and quality-assured starting point for early drug development. Dysregulation of the tyrosine metabolism pathway is closely associated with malignant tumors.
	Lipoxygenase Library from Enamine	1,300+	Lipooxygenases catalyze the formation of corresponding peroxides from polyunsaturated fatty acids and are widely expressed in immune, epithelial, and tumor cells. The activation of these enzymes can lead to various structural and metabolic changes. Abnormal LOX activity is associated with tumorigenesis.
	Glutamate Receptor Focused Library	4,600+	The metabolic glutamate receptors are a family of eight types of G protein-coupled receptors (GPCRs) that play a significant role in regulating glutamate's actions and responses. They are associated with the occurrence and development of tumors and are one of the targets for drug discovery.

Related Compounds

Catalog No.	Product Name	Description
T0189	Pemetrexed	Pemetrexed (LY-231514 Disodium Hydrate), a guanine-derived antineoplastic agent, binds to and inhibits the enzyme thymidylate synthase (TS).
T0676	Hydroxyurea	Hydroxyurea, an antineoplastic agent, inhibits DNA synthesis through the inhibition of ribonucleoside diphosphate reductase.
T1038	Fludarabine	Fludarabine (Fludarabinum) is a fluorinated purine analog, an inhibitor of nucleic acid synthesis and an inhibitor of STAT1 activation. Fludarabine has antitumor activity and can be used for the treatment of leukemia and lymphoma.
T0010	6-Mercaptopurine	6-Mercaptopurine is an antimetabolite antineoplastic agent with immunosuppressant properties. It interferes with nucleic acid synthesis by inhibiting purine metabolism and is used, usually in combination with other drugs, in the treatment of or in remission maintenance programs for leukemia.
T1485	Methotrexate	Methotrexate (WR19039) is a folate analog, an inhibitor of the dihydrofolate reductase DHFR. Methotrexate has antimetabolic, antitumor, and immunosuppressive activities.
T2346	Enasidenib	Enasidenib (AG-221) is an orally available inhibitor of specific mutant forms of the mitochondrial enzyme isocitrate dehydrogenase type 2 (IDH2), with potential antineoplastic activity.
T3617	Ivosidenib	Ivosidenib (AG-120) is an orally available inhibitor of isocitrate dehydrogenase type 1 (IDH1) with potential antineoplastic activity.
T6157	Devimistat	Devimistat (6,8-Bis(benzylthio)octanoic acid) , a lipoate analog, inhibits mitochondrial enzymes pyruvate dehydrogenase (PDH) and α-ketoglutarate dehydrogenase, disrupts tumor cell mitochondrial metabolism.
T8532	IM156	IM156 is a potent oxidative phosphorylation (OXPHOS) inhibitor which is used for the research of solid tumors.
T5337	IACS-010759	IACS-010759 is an orally bioavailable inhibitor of complex I of oxidative phosphorylation of the mitochondrial electron transport chain.
T6797	Telaglenastat	Telaglenastat (CB 839) (IC50 of 24 nM), an effective, specific, and oral inhibitor, which is bioavailable glutaminase, for recombinant human GAC.
T11412	IPN60090	IPN60090 is a novel, potent, orally bioavailable, renal-type glutaminase (GLS1)-specific inhibitor with an IC50 value of 31 nM for GLS1. IPN60090 has potential anticancer and immunostimulant/immunomodulatory activity.
T62560	Sirpiglenastat	Sirpiglenastat (DRP-104), a glutamine antagonist and prodrug of DON, exhibits antitumor activity by inhibiting glutamine metabolism and stimulating both the innate and adaptive immune systems.
T3210	AZD3965	AZD3965 (AZD-3965) is a selective inhibitor of monocarboxylate transporter 1 (MCT1).
T15271	Denifanstat	Denifanstat is a fatty acid synthase (FASN) inhibitor with selective and oral activity. Denifanstat has been used in studies of steatohepatitis.
T9050	AG-270	AG-270 is a reversible, non-competitive, orally active MAT2A alteration inhibitor with antitumour activity.
T20700	Racemetirosine	Racemetirosine is a Tyrosine 3-monooxygenase inhibitor, and inhibits the synthesis of catecholamines consequently.
T6543	Indoximod	Indoximod (NLG-8189) is a methylated tryptophan with immune checkpoint inhibitory activity. Tryptophan depletion is associated with immunosuppression involving T cell arrest and anergy.
T3548	Epacadostat	Epacadostat (INCB 024360) is an oral, potent and selective IDO1 inhibitor with IC50 value of 71.8 nM.
T1159	Leflunomide	Leflunomide (HWA486) is an immunomodulatory agent used in the therapy of rheumatoid arthritis and psoriatic arthritis.

4. EGFR

EGFR (Epidermal Growth Factor Receptor) is a key driver of tumorigenesis. Inappropriate activation of EGFR in tumors is primarily caused by amplification and point mutations in the EGFR locus within the genome, which in turn activates downstream signaling pathways, leading to excessive tumor growth. Therefore, targeting EGFR and its downstream signaling cascade is considered a valuable approach in cancer therapy. In recent years, several tyrosine kinase inhibitors (TKIs) and monoclonal antibody (mAb) drugs targeting EGFR have been approved for use. However, due to the issue of resistance to existing inhibitors, ongoing research is focused on finding more effective EGFR inhibitors.



EGFR Signal Transduction Pathway Model [6]

Compound Libraries

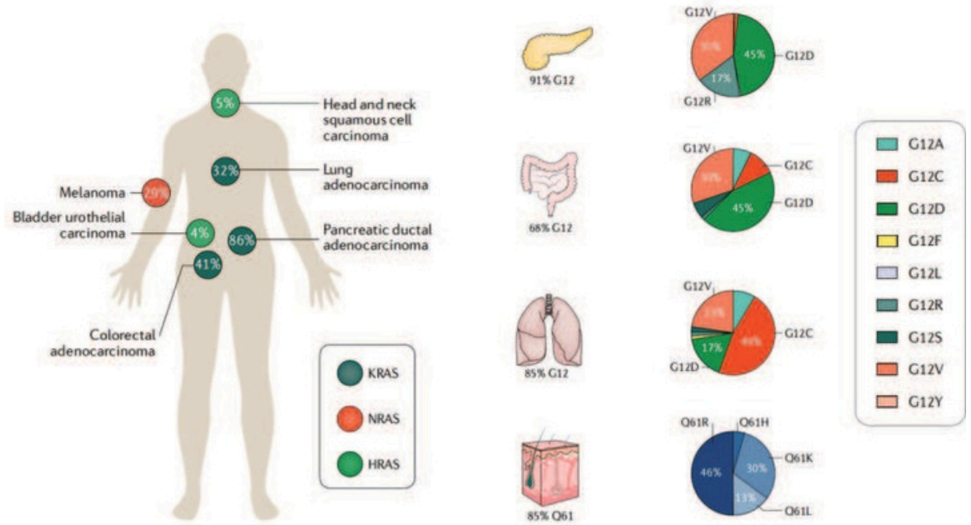
Catalog No.	Product Name	Quantity	Description
L1600	Kinase Inhibitor Library	2,800+	TargetMol's Kinase Inhibitor Library, containing 2840 kinase inhibitors/regulators , can be used for research in chemical genomics, pharmacological study, and drug screening for related diseases.
L1300	PI3K-AKT-mTOR Compound Library	600+	A unique collection of 600+ compounds targeting PI3K/Akt/mTOR signaling for related research, and drug discovery in diseases involved with PI3K/Akt/mTOR signaling.
L1400	MAPK Inhibitor Library	300+	A unique collection of 300+ compounds targeting MAPK signaling for drug discovery in MAPK related diseases.
	Epidermal Growth Factor Receptor (EGFR) Kinase Inhibitor Library	300+	A collection of compounds related to the EGFR target, suitable for high-throughput and high-content screening; an effective tool for anticancer drug screening.

Related Compounds

Catalog No.	Product Name	Description
T1181	Gefitinib	Gefitinib is an EGFR first-generation inhibitor with oral activity that inhibits the EGFR 19 Del and L858R mutations. Gefitinib has antitumor activity.
T0373	Erlotinib	Erlotinib (NSC-718781) is an EGFR inhibitor (IC50: 2 nM). It is used for the treatment of non-small cell lung cancer.
T6153	Icotinib	Icotinib (Conmana) is an orally available quinazoline-based inhibitor of epidermal growth factor receptor (EGFR), with potential antineoplastic activity.
T21312	Afatinib	Afatinib (BIBW 2992) is an irreversible inhibitor of the EGFR family (EGFR-wt, EGFR-L858R, EGFR-L858R/T790M, and HER2).
T2483	Dacomitinib	Dacomitinib is a highly selective, orally bioavailable small-molecule inhibitor of the HER family of tyrosine kinases.
T2490	Osimertinib	Osimertinib is an EGFR third-generation inhibitor that inhibits the T790M resistance mutation produced by second-generation EGFR inhibitors with irreversible and oral activity. Osimertinib has antitumor activity for the treatment of EGFR-mutated non-small-cell lung cancer.
T5462	Almonertinib	Almonertinib is an inhibitor specifically targeting EGFR activation mutations and the resistant EGFR T790M mutation, exhibiting limited activity against wild-type EGFR.
T22254	Alflutinib	Alflutinib (Firmonertinib) is an inhibitor of EGFR, and its targets including EGFR activating mutations and T790M, thus leading to tumor growth inhibition.
T6918	Olmutinib	Olmutinib is an orally available small molecule, a mutant-selective inhibitor of epidermal growth factor receptor (EGFR) with potential antineoplastic activity.
T11161	EGFR-IN-7	EGFR-IN-7 (TQB3804) is a selective and potent EGFR kinase inhibitor.
T9754	BLU-945	BLU-945 is a potent, highly selective, reversible, and orally active epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor effective against EGFR with L858R, exon 19 deletion, T790M, and C797S mutations. It is used in lung cancer research, including non-small cell lung cancer (NSCLC).
T6824	EAI045	EAI045, an allosteric inhibitor, targets towards drug-resistant EGFR mutants but avoids the wild-type receptor.
T8872	(Rac)-JBJ-04-125-02	(Rac)-JBJ-04-125-02 (JBJ-04-125-02) is effective as a single agent in both in vitro and in vivo models of EGFR-mutant lung cancer.
T10534	BI-4020	BI-4020 is a fourth-generation, orally active, and non-covalent inhibitor of EGFR tyrosine kinase. BI-4020 also shows high kinome selectivity and good DMPK properties.
T0078	Lapatinib	Lapatinib (GW572016) is an inhibitor of ErbB2 and EGFR (IC50=9.2/10.8 nM) with oral activity. Lapatinib has antitumor activity and can be used to treat advanced or metastatic breast cancer with HER2 overexpression.
T2325	Neratinib	Neratinib (HKI-272) (HKI-272) is an orally available, irreversible tyrosine kinase inhibitor for HER2 and EGFR (IC50: 59/92 nM), respectively.
T12594	Pyrotinib dimaleate	Pyrotinib dimaleate (SHR-1258 dimaleate) is a potent, selective dual inhibitor of EGFR and HER2, with IC50 values of 13 nM and 38 nM, respectively.
T9905	Cetuximab	Cetuximab (C225) is a monoclonal antibody that is an inhibitor of human epidermal growth factor receptor (EGFR) (Kd=0.201 nM). Cetuximab has antitumor activity, inhibiting tumor cell proliferation and inducing apoptosis.
T9927	Panitumumab	Panitumumab is a fully human IgG2 monoclonal antibody targeting the epidermal growth factor receptor EGFR).
T76890	Petosemtamab	Petosemtamab (MCLA 158) is a highly potent monoclonal antibody against EGFR (Kd: 0.22 nM) and LGR5 (Kd: 0.86 nM). Petosemtamab promotes EGFR signaling disruption and receptor breakdown in LGR5+ cancer cells.

5. RAS

RAS (including KRAS, NRAS, and HRAS) is one of the most commonly mutated gene families in tumors, with RAS gene mutations occurring in approximately one-third of human cancers. For this reason, RAS is referred to as an oncogene. RAS functions as a small switch that transmits GTP signals, toggling between an active GTP-bound state and an inactive GDP-bound state. Mutations in RAS disrupt the guanine nucleotide exchange cycle, often by becoming independent of GAP and "locking" RAS in its active GTP-bound state. This activation of downstream signaling pathways leads to tumor cell growth. With the successful development of KRAS G12C covalent inhibitors, drug development targeting RAS is currently in full swing.



The Frequency & Distribution of RAS Mutations in Cancer [7]

Related Compound Libraries

Catalog No.	Product Name	Quantity	Description
L2190	Anti-Lung Cancer Compound Library	1,700+	Compounds related to lung cancer that can be used for the development of anti-lung cancer drugs and pharmacological research; targets include EGFR, PI3K, FGFR, HER2, ALK, and c-Met.
L2192	Anti-Pancreatic Cancer Compound Library	2,200+	Compounds related to pancreatic cancer that can be used for high-throughput and high-content screening; targets include KRas, MEK, ERK, RAF, PI3K, HER2, EGFR, JAK/STAT, IGF-1R, VEGF, TGFβ, etc.
L2194	Anti-Colorectal Cancer Compound Library	1,800+	1,800+ compounds related to colorectal cancer are available for high-throughput and high-content screening. Multiple signaling pathways and targets are associated with colorectal cancer, such as RAS, VEGFR, EGFR, Wnt/β-catenin, p53, and TGF-β.

Related Compounds

Catalog No.	Product Name	Description
T72062	BI-2865	BI-2865 is a non-covalent pan-KRAS inhibitor. It is antiproliferative activity in BaF3 cells expressing KRAS G12C, G12D, or G12V mutants.
T8684	Sotorasib	Sotorasib (AMG-510) is an orally active and selective covalent inhibitor of KRAS G12C. Sotorasib exhibits inhibitory activity against KRAS G12C mutant tumors.
T8369	Adagrasib	Adagrasib (MRTX849) is an orally active and selective covalent inhibitor of KRAS G12C. Adagrasib exhibits inhibitory activity against KRAS G12C mutant tumors.
T7414	ARS-853	ARS-853 is an inhibitor of K-RASG12C(IC50 : 2.5 μM), a mutant form of K-RAS that accumulates in the active GTP-bound state in certain cancer cells.
T7609	ARS-1620	ARS-1620 is a covalent inhibitor of K-RASG12C.
T40292	Opnurasib	Opnurasib (JDQ-443) is an orally available and selective and potent covalent KRAS G12C inhibitor with antitumor activity for the study of advanced non-small cell lung cancer.
T9972	Divarasib	Divarasib (GDC-6036) is an investigational, oral, high-potency and selective KRAS G12C inhibitor. It irreversibly locks KRAS G12C oncoprotein in an inactive state and inhibits tumor cell growth.
T36256	LC-2	LC-2 is a PROTAC that covalently binds KRAS G12C with MRTX849 and recruits the E3 ligase, VH, to induce a rapid and sustained degradation of KRAS G12C.
T9303	MRTX1133	MRTX1133 is a KRAS G12D inhibitor (KD=0.2 pM) that is potent, selective, and non-covalent. MRTX1133 exhibits inhibitory activity against KRAS G12D-mutated tumors.
TP2358	KRPEP-2D Acetate	KRPEP-2D acetate was identified as a K-Ras(G12D) selective inhibitory peptide against the G12D mutant of K-Ras, which is a key member of the Ras protein family and an attractive cancer therapeutic target.
T74698	RMC-6236	RMC-6236 is a RAS(ON)MULTI inhibitor with anticancer activity and is used in the study of advanced malignant solid tumors and colorectal cancer.
T81263	RMC-7977	RMC-7977 is a highly selective inhibitor of the active (GTP-bound) forms of KRAS, HRAS, and NRAS with anticancer activity for the study of solid tumors with KRAS G12C mutations.
T12979	BI-3406	BI-3406 is an orally active, highly potent and selective between KRAS and Son of Sevenless 1 (SOS1) interaction inhibitor(IC50 : 6 nM),with anticancer activity.
T3564	SHP099	SHP099 free base is an effective, selective, orally bioavailable, and efficacious SHP2 inhibitor. SHP099 shows dose-dependent pathway inhibition and antitumor activity in xenograft models.
T13176	TNO155	TNO155 is a protein tyrosine phosphatase (PTP) non-receptor type 11 inhibitor, with potential antineoplastic activity.
T39658	RMC-4630	RMC-4630 (SHP2-IN-7) is an inhibitor of SHP2, with anti-tumor activity.
T16762	RMC-4550	RMC-4550 is an effective and allosteric inhibitor of SHP2 (IC50: 0.583 nM).
T5418	BAY-293	BAY-293 is a potent, cell-active SOS1 inhibitor that disrupts the KRAS-SOS1 interaction (IC50: 21 nM).
T9755	MRTX0902	MRTX0902 is an effective and high selective inhibitor of SOS1 with an IC50 of 46 nM and a Ki of 2 nM.
T38170	RMC-0331	RMC-0331 (RM-023) is an orally available and potent SOS1 inhibitor with potential anticancer activity, blocking RAS activation by disrupting RAS-SOS1 interactions.

Cancer-related Products

TargetMol offers a wide range of oncology research-related products and services, including compounds, compound libraries, kits, and technical services, fully meeting your experimental needs and helping you achieve greater progress in cancer research.

Small Molecule Compounds

✓ 20+ Signaling Pathways ✓ Broad Targets ✓ High Quality

Catalog No.	Product Name	Description
T1564	Cisplatin	Cisplatinis a DNA cross-linking agent. Cisplatin has antitumor activity and inhibits DNA synthesis by forming DNA adducts in cancer cells. Cisplatin also activates ferroptosis and induces autophagy.
T1178	Temozolomide	Temozolomide (TMZ) is a DNA alkylating agent with blood-brain barrier permeability and oral activity. Temozolomide has antitumor activity and antiangiogenic activity, and also induces apoptosis and autophagy.
T0251	Gemcitabine	Gemcitabine (LY188011) is a synthetic cytosine nucleoside derivative and an inhibitor of DNA synthesis. Gemcitabine has antitumor and antimetabolic activities. Gemcitabine induces autophagy and apoptosis.
T0984	5-Fluorouracil	5-Fluorouracil (5-FU) is a uracil analog and inhibitor of DNA synthesis, exhibiting antitumor activity by affecting pyrimidine synthesis through thymidylate synthase inhibition; it induces apoptosis and autophagy.
T1339	5-Azacytidine	5-Azacytidine (Ladakamycin) is a cytidine nucleoside analog, a DNA methylation inhibitor with specificity. 5-Azacytidine regulates gene expression by decreasing the level of DNA methylation. 5-Azacytidine induces autophagy and has antitumor activity.
T0093L	Sorafenib	Sorafenib (Bay 43-9006) is a multikinase inhibitor that targets Raf-1, B-Raf, VEGFR2, VEGFR3, VEGFR4, PDGFRβ, FLT3, c-Kit, and others with oral activity. It exhibits antitumor properties and can induce autophagy, apoptosis, and agonistic iron death.
T1792	Regorafenib	Regorafenib (BAY 73-4506) is an orally active, multi-targeted receptor tyrosine kinase inhibitor that inhibits RET, C-RAF, VEGFR2, c-Kit, VEGFR1, and PDGFRβ, exhibiting both antitumor and anti-angiogenic activity.
T6230	Imatinib	Imatinib (STI571) is a multi-targeted receptor tyrosine kinase inhibitor. Imatinib has antitumor activity for the treatment of chronic granulocytic leukemia.
T1977	Dorsomorphin	Dorsomorphin is an AMPK inhibitor that is selective and ATP-competitive. Dorsomorphin inhibits the BMP type I receptors ALK2, ALK3, and ALK6. Dorsomorphin induces autophagy, and possesses antitumor activity.
T1829	Ruxolitinib	Ruxolitinib (INCB018424) is a JAK1/2 inhibitor (IC50=3.3/2.8 nM) that is potent and selective. Rixolitinib exhibits antitumor activity and induces autophagy and apoptosis.
T1785	Palbociclib	Palbociclib is a CDK inhibitor that inhibits CDK4 and CDK6 (IC50=11/16 nM) and is orally active. Palbociclib has anti-tumorigenic activity and has investigational potential for use in ER-positive and HER2-negative breast cancer.
T2381	Abemaciclib	Abemaciclib is a dual inhibitor of CDK4/6 (IC50=2/10 nM) with selectivity and specificity. Abemaciclib has antitumor activity and is used to treat advanced or metastatic breast cancer.
T1784	Everolimus	Everolimus (SDZ-RAD) is a potent mTOR inhibitor that binds to FKBP-12. It is used alone or in combination with calcineurin inhibitors.
T1952	MK-2206 Dihydrochloride	MK-2206 dihydrochloride (MK-2206 2HCl) is a variant Akt inhibitor that inhibits Akt1, Akt2, and Akt3 (IC50=8/12/65 nM) with orally active, highly potent and selective potency. MK-2206 dihydrochloride exhibits antitumor activity.
T1448	Dasatinib	Dasatinib (BMS-354825) is an orally active, ATP-competitive tyrosine kinase inhibitor that targets Src and Bcr-Abl (Ki=16/30 pM), with antitumor activity, used in the treatment of leukemia and lymphoma.
T2101	Navitoclax	Navitoclax (ABT-263) is a potent oral Bcl-2 inhibitor that binds to Bcl-xL, Bcl-2, and Bcl-w proteins (Ki<1 nM), demonstrating antitumor activity and inducing apoptosis.
T2382	Vemurafenib	Vemurafenib (RG7204) is a B-RAF inhibitor and exhibits antitumor activity and is used for the treatment of BRAF V600E mutation-positive melanoma.
T2125	Trametinib	Trametinib (GSK1120212) is a MEK inhibitor that inhibits MEK1 and MEK2 (IC50=0.7/0.9 nM) with ATP non-competitive and oral activity. Trametinib activates autophagy and induces apoptosis.
T2383	Panobinostat	Panobinostat (NVP-LBH589) is a broad-spectrum HDAC inhibitor (IC50=5 nM) with oral activity and non-selectivity. Panobinostat has antitumor activity and induces apoptosis and autophagy.
T1583	Vorinostat	Vorinostat is a pan-histone deacetylase (HDAC) inhibitor (IC50=10 nM) with inhibitory activity against HDAC1/2/3/6/7/11. Vorinostat has antitumor activity, induces cell differentiation, blocks the cell cycle and induces apoptosis.

Natural Products

✓ Wide-ranging Sources ✓ Diverse Structures ✓ Comprehensive Information

Catalog No.	Product Name	Description
T0968	Paclitaxel	Paclitaxel (Taxol) is a natural product and a microtubule polymer stabilizer. Paclitaxel has anti-tumor activity and causes cell death by inducing mitotic arrest, apoptosis, and cell autophagy.
T1034	Docetaxel	Docetaxel (RP-56976), a semi-synthetic analog of paclitaxel, is a microtubule depolymerization inhibitor (IC50=0.2 μM) that attenuates the effects of bcl-2 and bcl-xL gene expression and exhibits apoptosis-inducing, anti-tumor activity.
T1020	Doxorubicin Hydrochloride	Doxorubicin hydrochloride belongs to the anthracycline class of antibiotics and is an inhibitor of human DNA topoisomerase I/II (IC50=0.8/2.67 μM). Doxorubicin hydrochloride exhibits cytotoxicity and antitumor activity.
T0132	Etoposide	Etoposide (VP-16-213) is a topoisomerase II inhibitor that inhibits DNA synthesis by forming a complex with topoisomerase II and DNA (IC50=60.3 μM). Etoposide has antitumor activity and induces apoptosis and autophagy.
T1123	Camptothecin	Camptothecin (CPT) belongs to the alkaloid group of natural products and is a specific DNA topoisomerase I (Topo I) inhibitor (IC50=679 nM) with specificity. Camptothecin has antitumor activity and induces apoptosis.
T6228	Irinotecan	Irinotecan (CPT-11), a derivative of camptothecin, is an inhibitor of DNA topoisomerase I (Topo I). Irinotecan has antitumor activity by preventing DNA strand reattachment.
T4S0797	Berberine	Berberine, a type of alkaloid natural product, can activate AMPK, inhibit DNA topoisomerase, and induce ROS generation. It exhibits various biological activities, including anti-tumor, antibacterial, and blood glucose-lowering effects.
T6116	Bleomycin Sulfate	Bleomycin Sulfate is a glycopeptide antibiotic and a DNA synthesis inhibitor with antitumor activity.
T6062	Brefeldin A	Brefeldin A is a macrolide antibiotic that acts as an ATPase inhibitor. It can induce differentiation and apoptosis in tumor cells and also has the activity to inhibit autophagy.
T1516	Curcumin	Curcumin is a phenolic natural product and an inhibitor of the histone acetyltransferase p300/CREB, exhibiting various pharmacological activities such as anti-tumor, anti-inflammatory, and antioxidant effects.
T1508	Decitabine	Decitabine is a deoxycytidine analog and a DNA methyltransferase inhibitor with antitumor activity and antimetabolic effects, inducing cell cycle arrest and apoptosis.
T1687	Doxycycline	Doxycycline is a tetracycline antibiotic that is a broad-spectrum matrix metalloproteinase (MMP) inhibitor, exhibiting both antibacterial and antitumor activities.
T1051	Retinoic Acid	Retinoic acid is a metabolite of vitamin A and a natural agonist of retinoic acid receptors (RAR). It can induce cell differentiation, reduce cell proliferation, and inhibit tumorigenesis.
T1272	Cytarabine	Cytarabine is a nucleoside analog and a DNA synthesis inhibitor that can inhibit DNA polymerase, induce cell cycle arrest, autophagy, and apoptosis, and has antitumor activity.
T1125	Shikonin	Shikonin is a natural product that acts as a TMEM16A chloride channel inhibitor and a selective PKM2 inhibitor. It has antitumor, anti-inflammatory, and wound healing activities.
T2177	Kaempferol	Kaempferol is a natural flavonoid and a selective inverse agonist of ERRα and ERRγ, with various activities including anti-tumor, anti-inflammatory, antioxidant, antibacterial, and antiviral effects.
T2179	Triptolide	Triptolide is a tricyclic diterpenoid natural product and an inhibitor of NF-κB activation. It possesses immunosuppressive, anti-rheumatic, anti-inflammatory, anti-proliferative, and anti-tumor activities.
T3380	Homoharringtonine	Homoharringtonine is a natural product belonging to the alkaloid class, which can inhibit protein translation and possesses cytotoxic and antitumor activities.
T0801	Tannic Acid	Tannic acid is a polyphenolic natural product and an hERG channel blocker, exhibiting various biological activities, including antibacterial, antioxidant, anti-inflammatory, and antitumor effects.
T0795	Rutin	Rutin is a flavonoid natural product with a wide range of biological activities, including antioxidant, anti-inflammatory, anti-tumor, blood glucose-lowering, neuroprotective, antibacterial, and anti-aging effects.

Inhibitory Antibodies

✓ Rich Categories ✓ Good In Vivo Activity ✓ Low Endotoxin

Catalog No.	Product Name	Description
T76796	Patritumab	Patritumab is an anti-HER3 monoclonal antibody with potential antitumor activity, promoting apoptosis and inhibiting the proliferation of non-small cell lung cancer.
T9912	Trastuzumab	Trastuzumab is a humanized monoclonal antibody that selectively binds to HER2 with high affinity, exhibiting antitumor activity and can be used to treat HER2-positive tumors.
T9909	Pertuzumab	Pertuzumab is a humanized monoclonal antibody and a HER2 dimerization inhibitor, used in the study of metastatic HER2-positive breast cancer.
T76877	Vofatamab	Vofatamab is a fully human monoclonal antibody targeting FGFR3, with potential anti-cancer and anti-tumor activity. It is often used in combination with other compounds to treat cancer.
T76673	Bemarituzumab	Bemarituzumab is a novel humanized IgG1 monoclonal antibody that targets FGFR2b, preventing the binding and activation of FGFR2b by FGF. It has potential applications in cancer research.
T76780	Onartuzumab	Onartuzumab is a humanized monoclonal antibody targeting the c-MET tyrosine kinase, which exhibits anti-tumor activity and inhibits HGF binding, receptor phosphorylation, and signal transduction.
T76743	Emibetuzumab	Emibetuzumab is an effective humanized bivalent MET antibody (IgG4 type) with anti-tumor activity, inhibiting the activation of HGF-dependent and non-dependent MET pathways as well as tumor growth.
T9904	Bevacizumab	Bevacizumab is a humanized monoclonal antibody that specifically binds with high affinity to all isoforms of VEGF-A, exhibiting anti-tumor activity.
T76794	Ulocuplumab	Ulocuplumab is a fully humanized anti-CXCR4 IgG4 antibody that has demonstrated anti-tumor activity in models of acute myeloid leukemia, non-Hodgkin lymphoma, and multiple myeloma transplantation.
T76873	Nidanilimab	Nidanilimab is a fully humanized monoclonal antibody targeting IL1RAP, which has antitumor activity by blocking the signaling pathways of IL1α and IL1β, and inducing the immune system to destroy tumor cells.
T76978	Siltuximab	Siltuximab is a monoclonal antibody that targets IL-6 and has anti-tumor activity, used for the study of multicentric Castleman disease (MCD) and COVID-19.
T77093	Theralizumab	Theralizumab is a monoclonal antibody that targets CD28. It directly stimulates T cells and has anti-tumor activity, being used for the treatment of B-cell chronic lymphocytic leukemia and rheumatoid arthritis.
T9910	Rituximab	Rituximab is an anti-CD20 chimeric monoclonal antibody used in the study of certain autoimmune diseases and tumors.
T9924	Obinutuzumab	Obinutuzumab is a novel glycoengineered type II CD20 monoclonal antibody used for the treatment of non-Hodgkin lymphoma.
T76706	Varlilumab	Varlilumab is a novel human IgG1 monoclonal antibody targeting CD27, which has antitumor activity and can be used in the study of advanced solid tumors.
T9918	Daratumumab	Daratumumab is a specific anti-CD38 monoclonal antibody that disrupts the adhesion of multiple myeloma (MM) cells and has therapeutic effects against multiple myeloma.
T35390	Magrolimab	Magrolimab is a humanized anti-CD47 IgG4 monoclonal antibody that can be used in combination with other compounds for the treatment of relapsed multiple myeloma.
T9919	Alemtuzumab	Alemtuzumab is a humanized anti-CD52 monoclonal antibody that induces profound lymphocyte depletion and can be used for the treatment of B-cell leukemia.
T77367	Urelumab	Urelumab is a humanized IgG4 monoclonal antibody commonly used as a CD137 agonist, with potential antitumor activity.
T76691	Monalizumab	Monalizumab is a humanized monoclonal antibody targeting NKG2A, which activates natural killer (NK) cell function and exhibits anti-tumor activity. It can be used in the study of head and neck squamous cell carcinoma.

Recombinant Proteins

✓ Rich Selection of Species, Tags and Expression Systems ✓ High Purity & Low Endotoxin

✓ Bioactivity Validation

Catalog No.	Product Name	Description
TMPY-00897	PD-1 Protein, Human, Recombinant (His)	PD-1 is a type I transmembrane glycoprotein and belongs to the CD28/CTLA-4 family of immune receptors. When interacting with its two ligands, PD-L1 or PD-L2, it negatively regulates antigen receptor signaling by recruiting the protein tyrosine phosphatase SHP-2.
TMPY-05208	PD-L1 Protein, Human, Recombinant	PD-L1 is the ligand of PD-1, promoting the growth of immunogenic tumors by increasing the apoptosis of antigen-specific T cells and potentially contributing to immune evasion in cancer.
TMPY-04824	CTLA-4 Protein, Human, Recombinant	CTLA-4 is a single-pass type I membrane protein and a member of the immunoglobulin superfamily. It is an essential receptor involved in the negative regulation of T cell activation, transmitting inhibitory signals to T cells.
TMPY-01621	TIM-3/KIM-3/HAVCR2 Protein, Human, Recombinant (His)	TIM-3 is a transmembrane glycoprotein expressed on the surface of terminally differentiated Th1 cells. Tim-3significantly impairs the antitumor immunity of T cells, leading to reduced antitumor CTL activity and a decreased number of tumor-infiltrating lymphocytes in the tumor.
TMPY-00742	EGFR Protein, Human, Recombinant (His)	EGFR is a type I transmembrane glycoprotein that plays a critical role in signaling pathways regulating cell proliferation, survival, and differentiation. EGFR signaling has also been shown to contribute to tumorigenesis and disease progression.
TMPY-00167	HER2/ERBB2 Protein, Human, Recombinant	HER2 is a type I transmembrane glycoprotein, belonging to the EGFR family. It plays a critical role in development, cell proliferation, and differentiation, and is associated with the malignancy and poor prognosis of various cancers, including breast cancer, prostate cancer, ovarian cancer, and lung cancer.
TMPJ-00412	VEGFR1/FLT-1 Protein, Human, Recombinant (hFc)	VEGFR1 is an essential receptor tyrosine kinase that plays a critical role in regulating VEGF family-mediated angiogenesis, vasculogenesis, and lymphangiogenesis. It promotes endothelial cell proliferation mediated by PGF and the proliferation of certain types of cancer cells.
TMPY-02361	VEGFR2/KDR Protein, Human, Recombinant (His)	VEGFR2 is a major signaling mediator in angiogenesis and the development of pathological conditions such as cancer and diabetic retinopathy. It is primarily expressed in endothelial cells and is upregulated in the tumor vascular system.
TMPY-04396	C-ABL/ABL1 Protein, Human, Recombinant (GST)	c-Abl is a non-receptor tyrosine kinase involved in various signaling pathways that connect the cell surface, cytoskeleton, and nucleus. It has become an important therapeutic target for human chronic myeloid leukemia.
TMPY-06056	KRAS Protein, Human, Recombinant (G12D, His)	K-Ras belongs to the small GTPase superfamily Ras family and is an early participant in many signal transduction pathways. Mutations in the K-Ras gene are also an important step in the development of many cancers, with high incidence rates found in leukemia, colon cancer, pancreatic cancer, and lung cancer.
TMPY-01168	ALK-1 Protein, Human, Recombinant (His)	ALK is a type of receptor tyrosine kinase. When mutated, it becomes abnormally activated, and the enhanced intrinsic kinase activity can activate downstream signaling molecules, leading to uncontrolled cell proliferation and ultimately resulting in tumor formation.
TMPY-01296	HGFR/c-Met Protein, Human, Recombinant (His)	HGFR is a receptor tyrosine kinase, and normal HGF/HGFR signaling is crucial for embryonic development, tissue repair, and wound healing. However, abnormal HGFR activity is closely associated with tumorigenesis, particularly in the development of invasive and metastatic phenotypes.
TMPY-01188	PARP Protein, Human, Recombinant (His)	PARP is involved in a range of cellular processes, including DNA repair and genome stability. PARP1 inhibitors are used for the targeted cancer therapy of recombination-deficient cancers (such as BRCA2 tumors).
TMPY-02700	BCL2 Protein, Human, Recombinant (His)	BCL2 belongs to the Bcl-2 family, regulating and participating in programmed cell death or apoptosis. Constitutive expression of BCL2, such as BCL2 translocation to the Ig heavy chain locus, is considered a cause of follicular lymphoma.
TMPY-01400	CD4 Protein, Human, Recombinant (His)	The glycoprotein CD4 on the surface of T cells is a single-pass type I membrane protein, expressed on the surface of helper T cells, regulatory T cells, monocytes, macrophages, and dendritic cells.
TMPY-01949	CD19 Protein, Human, Recombinant (His)	CD19 is a biomarker for B cells, regulating the development, proliferation, and differentiation of B cells through the B cell receptor and mediating T cell cytotoxicity against target cells. CD19 is widely used in the diagnosis and prognosis of leukemia, lymphoma, and immune system disorders.
TMPY-05201	Siglec-2/CD22 Protein, Human, Recombinant	CD22 is a member of the immunoglobulin superfamily and the Siglec (Sialic acid-binding Immunoglobulin-like Lectins) family of lectins. It activates B cells in vitro and regulates antigen receptor signaling, primarily involved in the production of mature B cells in the marginal zones of bone marrow, blood, and lymphoid tissues.
TMPY-03401	CD27/TNFRSF7 Protein, Human, Recombinant (His)	CD27 is a member of the TNF receptor superfamily, a type I transmembrane glycoprotein that is restricted to cells of the lymphoid lineage. It plays a role in lymphocyte proliferation, differentiation, and apoptosis, and is crucial for the generation of T-cell immunity. Additionally, it serves as a potent marker of normal memory B cells.
TMPY-05319	BCMA/TNFRSF17 Protein, Human, Recombinant (His)	BCMA/TNFRSF17 is a member of the TNF receptor superfamily, preferentially expressed in mature B lymphocytes, and is important for B cell development and autoimmune responses. BCMA/TNFRSF17 is a target for the immune response of donor B cells in multiple myeloma patients responding to DLI (donor lymphocyte infusion).
TMPY-01139	PDGFRA Protein, Human, Recombinant (His)	PDGFRA is a cell surface receptor that is a member of the platelet-derived growth factor family. It is involved in tumor angiogenesis and the maintenance of the tumor microenvironment, and is associated with the development and metastasis of hepatocellular carcinoma.

Compound Libraries

✔ Good Bioactivity ✔ Defined Targets ✔ Customization Service

Catalog No.	Product Name	Quantity	Description
L1000	Approved Drug Library	2,800+	Can be used for high-throughput screening and high-content screening; all compounds are approved by authoritative organizations such as the FDA, EMA, and NMPA; an effective tool for repurposing old drugs and screening new drug targets.
L4000	Bioactive Compound Library	14,500+	Can be used for high-throughput screening, high-content screening, cell induction, and target confirmation; all compounds come with corresponding target information descriptions, and the target information is known. It is an effective tool for drug repurposing and cell induction target screening.
L4200	FDA-Approved Drug Library	1,700+	All have received FDA approval, providing FDA approval numbers, serving as effective tools for drug repositioning and screening of new drug targets; they have undergone rigorous preclinical studies and clinical trials, ensuring biological activity and safety.
L6000	Natural Product Library for HTS	4,300+	The unique collection of natural products serves as a powerful tool in drug development, pharmacological research, stem cell differentiation, fingerprinting studies, and quality research. It can be used for High-Throughput Screening (HTS) and High-Content Screening (HCS). It provides biological and pharmacological information about the products, offering theoretical direction and research foundation for screening.
L2100	Anti-Cancer Compound Library	7,300+	The products have undergone clinical validation and clinical trials, ensuring biological safety and demonstrating certain biological activity. They are effective tools for studying the mechanisms of tumor development and for screening anti-tumor drugs.
L2110	Anti-Cancer Approved Drug Library	1,800+	All compounds have undergone rigorous preclinical research and clinical trials, and have been approved for marketing by the FDA, EMA,or NMPA.
L2120	Anti-Cancer Clinical Compound Library	2,600+	All compounds are anticancer compounds that have entered clinical trial stages; they serve as effective screening tools for cancer-related research, including 15 types of cancer such as lung cancer, breast cancer, leukemia, and lymphoma.
L2160	Anti-Cancer Active Compound Library	3,200+	Used for high-throughput and high-content screening; it is an effective tool for studying tumorigenesis and screening anti-tumor drugs.
L2150	Anti-Cancer Drug Library	3,100+	All compounds have known and good bioactivity, making them effective screening tools for cancer-related research and drug repositioning.
L2151	Chemotherapy Drug Library	50+	Used for high-throughput and high-content screening ; classified by mechanism of action and drug source into alkylating agents, antimetabolites, anticancer antibiotics, plant-derived anticancer drugs, hormones, and immunotherapeutics, among others.
L2152	Targeted Therapy Drug Library	100+	A collection of tumor-targeted therapeutic drugs that can be used for high-throughput and high-content screening; targets include EGFR, VEGFR, c-Met, Bcr-Abl, HER2, etc.
L2140	Cancer Cell Differentiation Compound Library	400+	The unique collection of compounds that induce tumor cell differentiation can be used for high-throughput screening and high-content screening.
L2180	Anti-Cancer Compound Library Plus	1,400+	Antitumor-related compounds with novel structures; over 99% of the compounds exhibit activity less than 3 μM, demonstrating high antitumor potential.
L2191	Anti-Breast Cancer Compound Library	1,900+	Compounds related to breast cancer that can be used for the development of anti-breast cancer drugs and pharmacological research; targets include HER-2, VEGF, EGFR, PARP, CDK4/6, HSP, PD-1, SET7/9, BRCA, etc.
L2193	Anti-Liver Cancer Compound Library	1,700+	Compounds related to liver cancer can be used for the development of anti-liver cancer drugs and pharmacological research. The pathway targets include PI3K/Akt/mTOR, EGFR, FGFR, and Met, among others.
L6700	Anti-Tumor Natural Product Library	1,800+	A powerful tool in fields such as tumor drug development and screening of anticancer lead compounds, and can be utilized for high-throughput screening (HTS) and high-content screening (HCS).
L6740	Anti-Colorectal Cancer Traditional Chinese Medicine Compound Library	300+	A collection of traditional Chinese medicine (TCM) monomers related to colorectal cancer; have diverse structures and include categories such as flavonoids, saponins, terpenoids, and alkaloids.
L2200	Tyrosine Kinase Inhibitor Library	1,000+	A unique collection of tyrosine kinase inhibitors, suitable for high-throughput screening and high-content screening; targets include c-KIT, c-Met, EGFR, FGFR, SRC, JAK, SYK, Btk, Bcr-Abl, etc.
DO1200	SmartTM Library	53,000+	The library covers 300+ targets and 500+ specific targeted sub-libraries; features excellent diversity with 1,900+ scaffolds and 600+ unique heterocyclic structures.

Compound Libraries

Catalog No.	Product Name	Quantity	Description
L5600	Mini Scaffold Library	5,000+	TargetMol's Mini Scaffolds Library was designed to only include 1 compound for each chemical scaffold and collect 5000 compounds, representing 5000 scaffolds, from a large drug-like chemical source.
	Anticancer Library	65,000+	A collection compounds with anticancer activity and a wide target space; featuring extensive diversity and specificity, composed of 3,400 unique scaffolds and 946 different heterocycles.
	Anticancer Screening Compound Library	13,000+	Divided into two sub-libraries: a cancer-focused library (9,100 compounds) through 2D similarity screen and a docking-targeted library (4,500 compounds) for cancer
	C-Met Library	16,000+	A collection of compounds related to c-MET: c-MET is associated with tumors, as the expression of c-MET and HGF has been detected in tumor biopsies of most solid tumors.
	PI3K-Targeted Library	19,000+	PI3K inhibitors are effective in inhibiting tumor progression. A 3D model of the PI3K active site was constructed, and reference compounds as well as molecules from the library were docked into the model. The representative compounds exhibited similar binding patterns to reported PI3K inhibitors.
	Bcl2-PPI Inhibitors Library	11,000+	Based on the fact that many cancers depend on anti-apoptotic Bcl-2 proteins, and that Bcl-2 proteins interact through defined BH domains, there has been a drive to develop drugs that can mimic the action of the BH3 domain, as they can restore apoptosis by binding to one or more members of the Bcl-2 family.
	DGK Inhibitors Screening Library	12,000+	DGK is closely related to the occurrence and development of various tumors. Utilizing 3D pharmacophore modeling and substructure screening/bioisosteric replacement to identify drug-like compounds with the potential to become DGK inhibitors is a powerful tool for DGK inhibitor screening and target drug development.
	Matrix Metalloproteinase Focused Library	2,000+	MMPs are potential targets for cancer treatment (tumor angiogenesis and metastasis). Based on a rigorous selection of structural and physicochemical parameters, a screening library of potential matrix metalloproteinase inhibitors was designed.
	Nucleoside Mimetics Library	2,600+	Based on nucleoside structures, various nucleoside analogs were meticulously designed and synthesized. Through REOS and MedChem filters, undesirable structures were eliminated, resulting in the creation of a nucleoside analog library. This library serves as a powerful tool for researching nucleoside-based antiviral and anticancer drugs.

Kits

✔ High Sensitivity ✔ High Stability ✔ Frequently Cited

Catalog No.	Product Name	Description
C0005	Cell Counting Kit-8 (CCK-8)	Cell Counting Kit-8 is a one-bottle solution; no premixing of components is required. Cell Counting Kit-8, being nonradioactive, allows sensitive colorimetric assays for the determination of the number of viable cells in cell proliferation and cytotoxicity assays.
C0045	RIPA Lysis Buffer	RIPA lysis buffer is a traditional lysis buffer used for the rapid lysis of cells and tissues. The protein samples obtained can be used for standard applications such as PAGE, Western Blot, IP, co-IP, and ELISA.
C0001	Protease Inhibitor Cocktail	TargetMol provides a wide array of customizable Protease Inhibitor Cocktails, each with varying mechanisms of actions, aimed at protecting your protein samples.
C0004	Phosphatase Inhibitor Cocktail	The phosphatase inhibitor mixture can effectively inhibit the dephosphorylation of common phosphatases on proteins and maintain the original phosphorylation state of proteins.
C0048	Deacetylase Inhibitor Cocktail	TargetMol deacetylase inhibitor cocktail consists of four components that effectively inhibit the activity of various deacetylases and maintain protein acetylation status.
C0050	BCA Protein Quantification Kit	The Bicinchoninic acid (BCA) assay is a stable, sensitive and highly compatible method for the determination of protein concentration. It is commonly used for quantifying the total amount of proteins after extraction.

Technical Service

TargetMol offers over 300 in vitro experimental services for early-stage tumor drug discovery, aiming to provide high-quality and efficient scientific support for global drug development users.

Computer-Aided Virtual Screening

TargetMol's screening team can perform virtual screening from a database containing tens of millions of compounds to identify potential active compounds targeting specific tumor targets. This screening method not only has a high success rate but also offers significant cost-effectiveness.

Target-Based Drug Activity Screening

TargetMol has extensive experience in enzyme target screening and has developed and established over 300 screening models. These include histone deacetylases, histone demethylases, tyrosine kinases, serine kinases, methyltransferases, phosphodiesterases, DNA repair enzymes, heat shock proteins, and immune-related proteins. The primary detection methods include fluorescence detection, absorbance detection, and chemiluminescence detection.

In Vitro Screening of Antitumor Drugs

TargetMol has a collection of over 170 human tumor cell lines authenticated by STR profiling. We provide preliminary screening of compounds through cell proliferation assays such as CCK8 and Cell Titer-Glo, helping to identify potential novel antitumor compounds.

Techinical Services

✔ Professional Team ✔ Rich Experience ✔ Detailed Report

Name	Services
CADD (Computer-aided Drug Design)	Virtual Screening, Molecular Docking, Reverse Targeting, Molecular Dynamics Simulation, Ultra-High Throughput Virtual Screening
Activity Screening	Target-based Screening: Enzymatic Target Activity Detection Nuclear Receptor Target Activity Detection GPCR Target Activity Detection Molecular Binding & Interaction Detection Phenotypic Screening: Cell Proliferation Detection Cell Cycle Detection Apoptosis Detection DNA-Encoded Compound Library Screening Pharmacokinetic Studies
Drug Design and Structure Optimization	Compound Synthesis, Molecular Building Blocks

Application Cases

Datta J, et al. Combined MEK and STAT3 Inhibition Uncovers Stromal Plasticity by Enriching for Cancer-Associated Fibroblasts With Mesenchymal Stem Cell-Like Features to Overcome Immunotherapy Resistance in Pancreatic Cancer. Gastroenterology. 2022 Dec;163(6):1593-1612.

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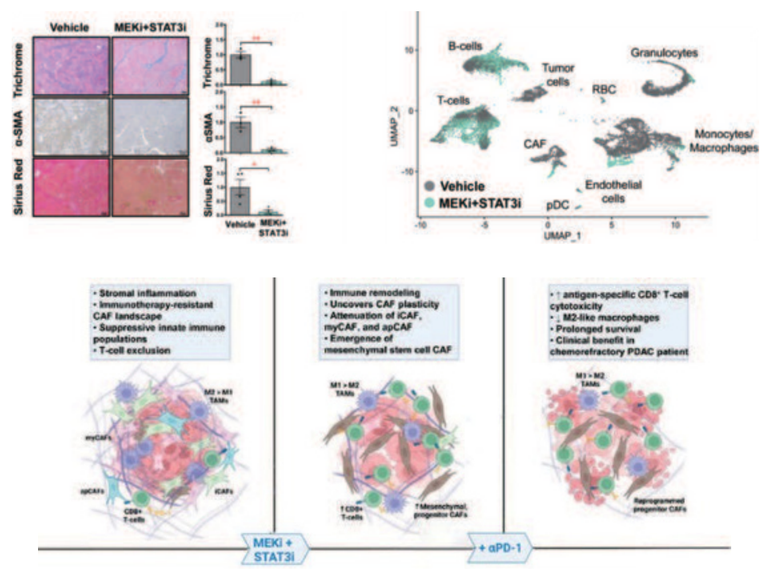
ruxolitinib (STAT3i, TargetMol, 15 mg/kg, oral gavage three times weekly),

To evaluate whether the combined use of MEK inhibitor (MEKi) and STAT3 inhibitor (STAT3i) can reprogram cancer-associated fibroblasts (CAFs) and the immune microenvironment to overcome PDAC (pancreatic ductal adenocarcinoma) resistance to immune checkpoint inhibition therapy, this study performed single-cell RNA sequencing to analyze the transcriptomes of CAFs and immune cells in PKT tumors treated with MEKi (trametinib) and **STAT3i (ruxolitinib)** compared to control vehicle-treated tumors. The therapeutic efficacy was assessed by comparing tumor growth, survival, and immune analysis of PKT mice treated with vehicle, anti-PD1 monotherapy, and the MEKi + STAT3i combination with anti-PD1.

The results showed that the combined use of MEKi and STAT3i effectively alleviated stromal inflammation in the tumor microenvironment and enriched a CAF phenotype with mesenchymal stem cell-like characteristics, overcoming PDAC resistance to existing immunotherapies.



Xu Y, et al. Targeting the Otub1/c-Maf axis for the treatment of multiple myeloma. Blood. 2021 Mar 18;137(11):1478-1490.

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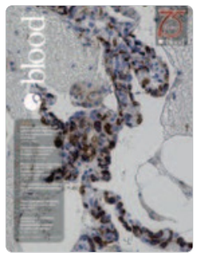
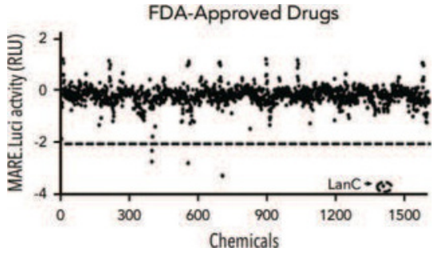
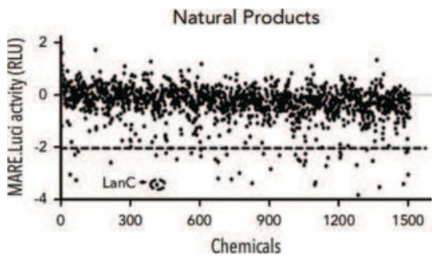
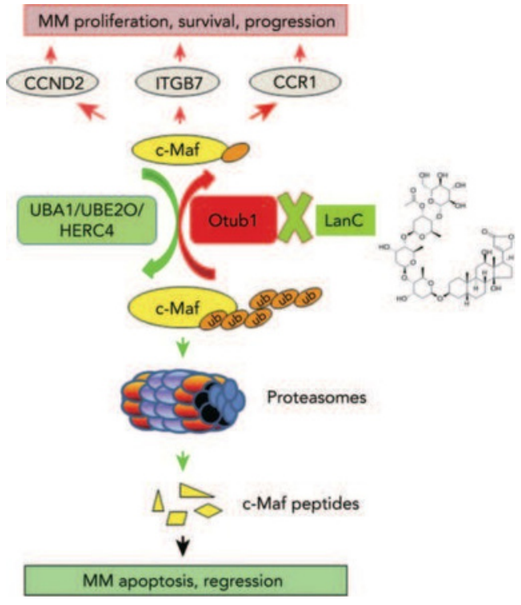


Lanatoside C (LanC), the US Food and Drug Administration (FDA)-approved drug library, and the Natural Products Library were obtained from Targetmol (Wellesley Hills, MA).

The oncogenic transcription factor c-Maf is considered an ideal therapeutic target for multiple myeloma (MM). Recent research has identified the Otub1/c-Maf axis as a potential therapeutic target for MM. To explore this possibility, the research team screened **TargetMol's FDA-approved drug library** and natural product library, utilizing a luciferase assay based on c-Maf response element recognition. They discovered that the general cardiac glycoside lanatoside C (LanC) can inhibit the deubiquitination of c-Maf, and induce its degradation by disrupting the interaction between Otub1 and c-Maf. This study identifies Otub1 as a novel deubiquitinase for c-Maf and establishes the Otub1/c-Maf axis as a potential therapeutic target for MM.







Shi W, et al. Hyperactivation of HER2-SHCBP1-PLK1 axis promotes tumor cell mitosis and impairs trastuzumab sensitivity to gastric cancer. Nat Commun. 2021 May 14;12(1):2812.

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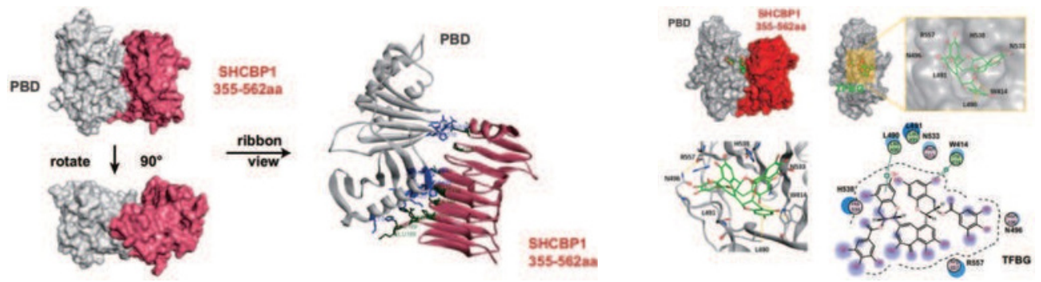
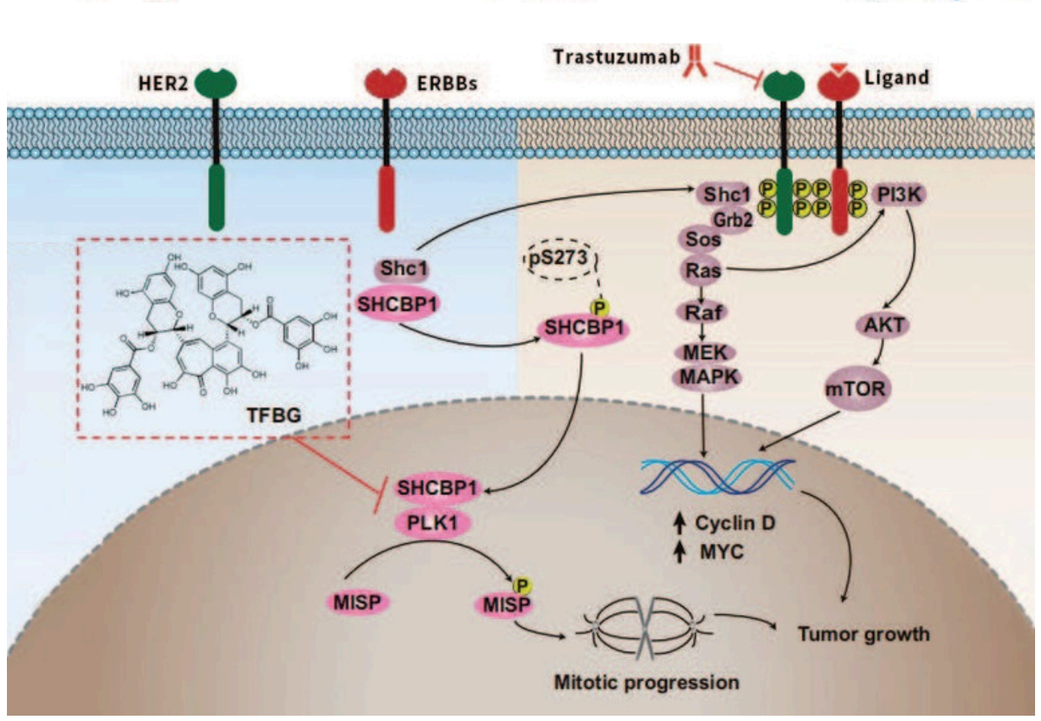
Customer research has discovered that the PLK1-SHCBP1 complex plays a role in mitosis and promotes cancer progression. Therefore, developing inhibitors targeting the PLK1-SHCBP1 complex has the potential to inhibit cell division and prevent cancer development.

TargetMol's CADD (Computer-Aided Drug Design) team constructed a 3D structure of SHCBP1 using homology modeling. Then, through molecular docking, they predicted the binding mode of the PLK1-SHCBP1 complex. Further analysis of binding site mutations and co-immunoprecipitation experiments confirmed the interaction mechanism of these proteins.

Next, using virtual screening technology, the team screened **17,000+ compounds from TargetMol's library** and finally 40 candidate compounds were identified. Among them, the selective inhibitor TFBG (TSID: T4S0554) has shown great potential and is expected to become an effective therapeutic option for the treatment of gastric cancer.





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Diversity Discovery Library

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