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MCE®
MedChemExpress

MedChemExpress

Master of Bioactive Molecules

01

Products

90,000+
Bioactive Molecules
for biomedical
research

02

Service

Personalized Drug
Screening and
customized
synthesis services

03

One-stop Platform

One-stop Platform for
independent research
and development up to
pilot scale production

MCE Profile

About Us

MedChemExpress (MCE) is a leading global brand in the life science industry, providing **high-quality bioactive molecules** and **cutting-edge solutions** for scientific research. MCE is committed to promoting the progress of human scientific research and pharmaceutical development, making R&D and production more efficient.

R&D Platform

- **>8,000 m²** R&D Center Square, **1,000+** R&D staff.

Quality Assurance (QA)

- Stringent quality control and verification system, certified by **ISO 9001, CNAS** quality management system.
- Provide a range of quality inspection reports, including **HNMR, LC/MS, HPLC, chiral analysis, elemental analysis, SDS-PAGE, SEC-HPLC, MS, FACS, affinity detection, activity detection**, etc.

Warehouse and Logistics Network

- A worldwide network comprising numerous business and warehouse logistics centers, providing global coverage, including **China, USA, Sweden, Germany, Australia, Japan, India**, etc.
- Diverse product portfolios within the biopharmaceutical field, accompanied by ample stock reserves.

Professional Services

- Our skilled technical support team is ready to offer round-the-clock professional assistance to meet all your research and production needs.

Global Partners

Harvard University
University of Cambridge
Massachusetts Institute of Technology
University of Oxford
Stanford University
National Institutes of Health — Turning Discovery Into Health
Dana-Farber Cancer Institute
Yale
Northwestern University
Imperial College London
Pfizer
Novartis
Roche
Lilly
MSD
GSK
sanofi
AstraZeneca
Gilead
abbvie

Global Journal Citations

Top Publications Citing Use of MCE Products

CONTENTS

Master of Bioactive Molecules

SMALL BIOACTIVE COMPOUNDS

60,000+
Inhibitors & Agonists

Target Specific | The Latest and Most Comprehensive

- Targeting **1,000+** proteins or protein families in **20+** signaling pathways.
- Covering many hot research areas such as cancer, neurological diseases, cardiovascular diseases, inflammation/Immunology**,** metabolic diseases, etc.
- High purity, high quality, stringent quality control system, and biological activity validated by scholars across the globe.
- Benefitting from decades of industry experience, we possess a dedicated team that consistently stays updated on the latest advancements in drug discovery and life science research, enabling us to introduce a continuous stream of new products.

8,000+
Natural Products

Optimal Solutions for Drug Lead Discovery

- Complex and diverse structures and activities.
- Clear source information (derived from plants, animals, or microorganisms).
- Including flavonoids, alkaloids, quinones, phenols, terpenes, and steroids, etc.

3,000+
Biochemical Assay Reagents

Covering co-solvents, enzymes, substrates, and cell-based assay related reagents.

01

30+
GMP Molecules

Empowering Cell Therapy

- Produced in accordance with the ICH-Q7 Guidelines for Good Manufacturing Practice for Active Pharmaceutical Ingredients (APIs).
- Auxiliary reagents for cell therapy, used in the reprogramming, expansion and differentiation of stem cells.
- Provide relevant R&D data and information to support the filing work and on-site audits from IND to NDA process.

6,000+
Isotope-Labeled Compounds

A Tool for Quantitative Analysis | To Explore Metabolic Pathways | To Improve Drug Pharmacokinetics

- Widely used in various fields: tracing, internal standard, drug metabolism, etc.
- Different kinds of isotope atoms: ^{2}H (D), ^{13}C, ^{15}N, ^{18}O, etc.
- High isotopic enrichment: ≥98%, High Purity: ≥98%.
- Novel isotope labeled compounds, personalized customization available.

1,000+
Fluorescence Dyes

Deep Exploration | Illuminate Your Experiment

- High quantum yield, strong signal, and high sensitivity.
- Fluorescence background contrast is obvious and easy to observe.
- High purity, stable quality. Suitable for analysis and detection of various biological samples.
- Robust quality control system based on batch-to-batch variations.
- High-quality fluorescent labeling service that enables fluorescent labeling of small molecule compounds, proteins, antibodies, peptides, etc.

PROTEINS/ANTIBODIES/ PEPTIDES

10,000+ Recombinant Proteins

High Purity | Biological Activity Validation | Excellent Lot-to-Lot Consistency

- **Broad Categories:** Including Cytokines and Growth Factors, Immune Checkpoint Proteins, and CD Antigens, etc.
- **Species Diversity:** Human, mouse, rat, virus, African clawed frog, etc.
- **Low Endotoxin Levels:** Measured by LAL assay.
- **High Purity:** Verified by SDS-PAGE & HPLC.
- **Biological Activity Validation:** Validated by relevant in vitro or in vivo assays.
- **Excellent Lot-to-Lot Consistency:** Confirmed by Lot-to-Lot data.

02

5,000+
Peptides

Strict Quality Assurance | Personalized Customization

- **Wide Range of Applications:** applied in popular research fields such as neuroscience, cardiovascular system, diabetes, cancer and apoptosis, epigenetics, cell signaling, peptide and protein analysis.
- **Strict Quality Control:** MS and HPLC validated to ensure high quality and purity.
- Unlimited custom peptide synthesis is available.

1,000+
Inhibitory Antibodies

Research-grade Control Antibodies

- Covering 100+ popular targets, including PD-1, PD-L1, EGFR, VEGFR , TNF-α.
- Widely used in popular research areas such as cancer, immunology, infection, etc.
- Low endotoxin, high purity.
- ***In Vivo*** grade antibodies.

1,000+
Selected Drug Target Antibodies

KO Level Functional Validation | Applicable to Multi-field Research

- Widely applicable in experimental researches: such as Western Blot, IHC, ICC/IF, IP.
- Applicable to target protein researches in trending signal pathways, such as infection, cell apoptosis, autophagy, inflammation and immunity, etc.

03 OLIGONUCLEOTIDES

18,000+

Explore the Infinite Possibilities of Gene Therapy

- Including Antisense oligonucleotide, siRNA, miRNA, CpG ODN, etc.
- Solid-phase synthesis with production capacity ranging from **μg** to **kg**.
- Customized services covering synthesis of phosphoramidite monomers and oligonucleotides, as well as coupling of oligonucleotides.

04 LIFE SCIENCE KITS

200+

High Cost-effectiveness | Get Rid of Tediousness | Ready-to-use | High Quality

- **Molecular Biology-related:** (q)PCR & RT-PCR, Nucleic acid Gel Electrophoresis, Nucleic acid & Plasmid extraction and purification, etc.
- **Protein Biology-related:** SDS-PAGE, IP & WB, Protein Sample Preparation, Purification & Electrophoresis, etc.
- **Cell Biology-related:** Transfection, Cell Culture, Cell Freezing, Apoptosis & Necrosis, Cell Proliferation and Cytotoxicity, etc.

05

FEATURED PRODUCTS

1,000+ Antibody-Drug Conjugates (ADCs)

Improve the Specificity of Bioactive Molecules to Tumor Cells

- Including ADC Antibody, ADC Cytotoxin, ADC Linker, Drug-Linker Conjugate for ADC, Antibody-Drug Conjugate.
- A novel targeted anti-cancer drug combining chemotherapy and immunotherapy.
- The high selectivity and toxicity against tumors, as well as targeted delivery of cytotoxic drugs and increase the percentage of drug delivery to tumor cells.

3,000+ PROteolysis TArgeting Chimeric Molecules (PROTACs)

Improve the Druggability of "Undruggable" Targets

- Including PROTAC, SNIPER, AUTAC, ATTEC, Molecular Glue.
- Utilizing an "event-driven" mechanism to directly degrade the target protein following ubiquitination, with low dosage and exhibiting negligible toxicity.
- Addressing the challenge of targeting "undruggable" intracellular proteins, nuclear proteins, and tumor-associated transcription factors.

ONE-STOP COMPOUNDS SCREENING PLATFORM

Services

High-Throughput Screening

- AS-MS/Kinase/GPCR/Ion channel Screening.
- Containing over **26 million** purchasable compounds.
- Diverse structures and high drug-likeness.
- Adequate inventory and reproducible supply.

Virtual Screening

Target research → Model building → Preparation of small molecule compound library

→ Molecular docking/ pharmacophore mapping → Compound selection

→ Idealized Entity Compound library

Drug Screening

- **120+** tumor cell lines, MTT, CCK-8, and other cell proliferation and cytotoxicity assays are available.
- Ability to detect the effects of compounds on apoptosis, cell cycle, signal transduction, etc.

DEL Synthesis and Screening

DNA screening technology rapidly selects structurally novel compounds with potential biological activity and drug-like properties from millions to billions of molecules, making drug development "so easy"!

06

Products

Bioactive Compound Libraries

- **200+** Ready-to-Use compound libraries
- **20,000+** bioactive compounds
- Targeting **1,000+** proteins or protein families

Fragment Libraries

- **20,000+** fragment compounds
- Structurally diverse, Useful tools for fragment-based drug discovery (FBDD)

Diverse Compound Libraries

Diversity Library (50K Compounds, HY-L901)

Scaffold Library (5K Compounds, HY-L902)

3D Diverse Fragment Library (5K Compounds, HY-L903)

Virtual Diversity Library (10M Compounds, HY-L912V)

Customized Libraries

Select compounds, specifications, layout, and product form (Dry/solid or Solution)

Advantages

Full Range

Quality assurance

Automated operation

Flexible customization

Rapid delivery

OUR SERVICES

We provide one-stop services from drug discovery to commercial production

Customized Services

We provide various customized services in the drug discovery stage.

- Small Molecule Compounds
- Antibody-Drug Conjugates
- PROteolysis TArgeting Chimeras
- Oligonucleotides
- Peptides
- Recombinant Proteins
- GMP Small Molecules
- Isotope-Labeled Compounds

07

Production Process Development

Core Technology Platform, Providing full support
from laboratory scale to commercial production on all fronts.

High-Throughput Screening

Photochemistry

Flow Chemistry

Solid State Chemistry Research

Biocatalysis

Preparative Chromatography

Spray Dried Dispersion

Hot Melt Extrusion

Professional CMC Team

- Number of completed IND (Investigational New Drug) filing projects: 100+.
- With more than 10 years of experience in the pharmaceutical industry, our team members have rich practical experience in new drug R&D, GMP compliance management, and regulatory filings.

Analytical Capabilities

- **Analytical Chemistry: 400+** projects, release of **3,000+** batches/year, and a library of **10,000+** methods.
- **Stability Studies: 300+** batches ongoing, with **20+** stability study data used for IND applications.
- We adhere to the **ISO9001** management system, CNAS, and GMP systems to guarantee the authenticity, completeness, reliability, and traceability of data and information for different clients, ensuring compliance with regulatory requirements.

OUR SERVICES

We provide one-stop services from drug discovery to commercial production

Commercial Production

Production of APIs and Intermediates

- **Total Area:** 37,360 m²
- From kilogram to ton scale
- **Total Volume of Reaction Vessels:** ~320,000 L
- The total volume of reaction vessels in the high-activity workshop: 3,000 L

Drug Formulation Development and Production

- **Total Area:** 12,000 m²
- 5 independent Grade D cleanrooms
- **Oral Solid Dosage Forms:** 4 workshops with an annual production capacity of about 1 billion units.
- **Semi-solid Preparation For External Use:** 1 workshop with an annual production capacity of about 20 million units, and a GMP warehouse that can meet various storage conditions (including 2-8°C).
- **Service Dosage Forms:** Tablets, hard capsules, granules, powders, creams, ointments, gels, and a dedicated production line for targeted anti-tumor formulations.
- Have passed the remote GMP audit by the EU Qualified Person (QP) and dynamic inspections by the National Medical Products Administration (NMPA).

Quality Management System

In the last three years, we have successfully undergone audits from over 100 clients, achieving a 100% pass rate, including GMP audits conducted by EU QPs.

Intellectual Property Protection

- To safeguard our clients' intellectual properties, we have implemented stringent confidentiality policies and established comprehensive SOPs (Standard Operating Procedures).
- We rigorously follow company protocols for records management and information handling.

ISO14001

CERTIFIED ISO 9001:2015 COMPANY

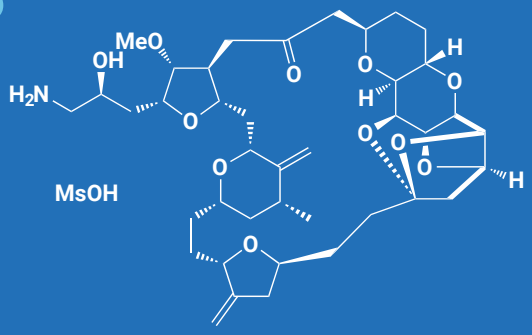
EHS

In China, we have two process safety laboratories that offer reliable basic data for process safety management. These laboratories also aid in the scaling-up and optimization of processes while considering safety aspects. Our dedication lies in attaining intrinsic safety and implementing comprehensive process safety management throughout the production cycle, ensuring secure and efficient manufacturing practices.

SUCCESSFUL SERVICE CASES

Eribulin Mesylate

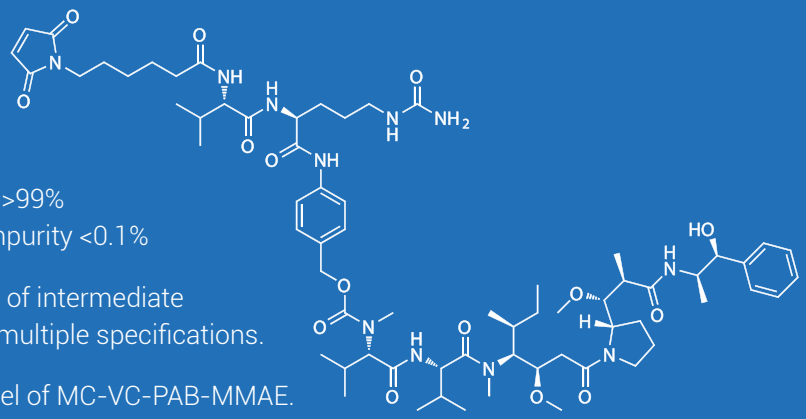
CAS: 441045-17-6



- For the treatment of metastatic breast cancer and advanced liposarcoma, with 19 chiral centers and more than 60 synthetic steps; theoretically, there are (2^{19}-1) chiral isomers, making it one of the toughest challenges in drug synthesis.
- Have achieved a breakthrough in the total synthesis of Ibrutinib, completed process development, pilot-scale production, GMP process validation at a 100-gram scale, and stability testing of the API and advanced intermediates.
- The API produced by our process has characteristic impurity limits below 0.1%, which is comparable to the reference material.
- Provide reliable supplies of Ibrutinib advanced intermediates and API at 100-gram scale under GMP and non-GMP systems, with ASMF in Europe, DMF in the US, and API filing in

Vc-MMAE

CAS: 646502-53-6



- **Product Standards:** Purity >99% >99% ee, >99% de, single impurity <0.1%
- Have completed the supply of intermediate products and Vc-MMAE in multiple specifications.
- Provide kilogram-level of MC-VC-PAB-MMAE.
- Have obtained 4 FDA DMF (Drug Master File) filings.

08

We collaborated with **Rongchang Biotech** to assist in chemical research and develop the first domestically produced ADC anticancer drug, which was approved for market on June 9th, 2021.

Disitamab vedotin (RC48)

Process Optimization and Quality Research

Technical Breakthroughs

Regulatory Filing Services

CMC Service

Quality Standards and Analytical Methods

ADC Service Advantages

150+ **Payloads**

1,000+ **Linkers**

700+ **Linkers Synthesis Experience**

8 **Sec-DMFs**

100+ **ADC Projects**

1 **Commercial**

Part of Payloads & Linkers

- PNU-159682
- PBD
- STING Agonist
- MMAE
- Exatecan
- Eribulin
- Amanitin
- Tubulysin
- Duocarmycin

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