



Animal Modeling

Introduction

Animal modeling is a crucial scientific research method for exploring the mysteries of diseases and testing innovative therapies. Every precisely constructed animal model relies on high-quality reagents. Animal modeling is a crucial scientific research method for exploring the mysteries of diseases and testing innovative therapies. Every precisely constructed animal model relies on high-quality reagents.

Aladdin scientific's extensive reagent catalog covers a variety of animal modeling experiments. Whether it is the construction of models for common diseases or rare disorders, it can provide reliable support for researchers, facilitating the acquisition of accurate and valuable experimental data.

Excellent Purity

Stable Performance

Both Solutions and Powders are Available



Reagents for Commonly Conducted Animal Modeling Experiments

Cat.No	Product Name	Grade/Purity	Brief Introduction
T425856	2,2,2-Tribromoethanol	10mM in DMSO	Efficiently anesthetize mice and rats. The anesthesia is long-lasting and stable, suitable for long-term modeling surgeries. Strictly control the dosage to prevent adverse reactions.
T161626	2,2,2-Tribromoethanol	≥ 98%(GC)	Anesthetize various animals, suppress nerve excitement, and reduce stress interference during modeling. Incorrect dosage may lead to adverse reactions.
C154049	Chloral	≥ 90%(GC)	As an animal anesthetic, it enables short-term anesthesia for multiple animals, meeting the anesthetic needs during modeling.
L386714	Lipopolysaccharide, E. coli 055:B5	purified by trichloroacetic acid extraction	Induce systemic inflammation in animals to establish inflammation models, involved in neurodegenerative disease research.
C126044	Cyclophosphamide	Moligand™, ≥ 98%	Establish immunosuppression models, study immune diseases and the effects of drugs on immunity, and apply to immune regulation in some nerve models.
C104188	Paraformaldehyde	AR	Fix animal tissues for subsequent histological analysis, immunohistochemistry and other experiments.

Models of Nervous System Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Alzheimer's Disease Model	A494432	Amyloid β Protein Fragment 1-42, TFA	$\geq 95\%$	Inject into specific brain areas to mimic pathological changes, causing nerve cell apoptosis and synaptic disorders.
Alzheimer's Disease Model	A433483	Aluminum Chloride	PrimorTrace™, $\geq 99.99\%$ metals basis	Administer long-term. Aluminum accumulates in the brain, affecting nerve function and inducing AD pathological changes.
Parkinson's Disease Model	M132847	1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine Hydrochloride (MPTP)	Moligand™, $\geq 98\%$	Pass through the blood-brain barrier, damage substantia nigra neurons, reduce dopamine secretion, and induce Parkinson's symptoms.
Parkinson's Disease Model	R426175	Rotenone	10mM in DMSO	Inhibit mitochondrial complex I activity, damage dopaminergic neurons, and establish the model.
Cerebral Ischemia Model	I112066	Ferric Chloride	PrimorTrace™, $\geq 99.99\%$ metals basis	Apply on the surface of brain blood vessels, induce thrombosis, block blood supply, and establish the cerebral ischemia model.
Epilepsy Model	P344660	Pilocarpine	Moligand™, $\geq 98\%$	As a cholinergic agonist, excite neurons and induce epileptic seizures in animals.
Epilepsy Model	P424686	Pentylentetrazole	10mM in DMSO	Act on the central nervous system, lower the convulsion threshold, and trigger epileptic-like seizures.
Huntington's Disease Model	rp174240	Huntingtin	Moligand™	Inject into the brain to mimic abnormal protein aggregation, leading to nerve cell dysfunction.

Models of Cardiovascular System Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Myocardial Infarction Model	H123383	Heparin sodium salt	Moligand™, ≥ 180 USP units/mg	Prevent blood clotting during surgery, avoid the influence of thrombosis on modeling, and maintain blood flow.
Myocardial Infarction/Heart Failure Model	I129810	Isoprenaline HCl	Moligand™, $\geq 99\%$	Use a large dose to increase the heart load, causing myocardial injury and establishing a myocardial infarction model.
Heart Failure Model	D107159	Doxorubicin hydrochloride	$\geq 98\%$	It is cardiotoxic, damages myocardial cells, reduces cardiac systolic function, and establishes a heart failure model.
Atherosclerosis Model	C302192	Cholestyramine resin	BioReagent	Interfere with intestinal lipid metabolism and cooperate with a high-fat diet to accelerate the modeling process.
Atherosclerosis Model	C657147	Cholesterol	Animal-free, low endotoxin, for cell culture, $\geq 99\%$	Add to the feed to increase cholesterol levels and promote vascular injury and lipid infiltration.

Models of Cardiovascular System Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Arrhythmia Model	B431293	Barium Chloride	PrimorTrace™, ≥ 99.999% metals basis	Act on myocardial ion channels, change electrophysiological characteristics, and induce arrhythmia.
Arrhythmia Model	D274858	DL-Adrenaline (Racepinephrine)	Moligand™, ≥ 98%	Stimulate myocardial receptors, affect cardiac electrical activity, and trigger arrhythmia.
Hypertension Model	D133972	11-Deoxy Corticosterone	Moligand™, ≥ 97%(HPLC)	Promote water and sodium reabsorption, increase blood volume, and establish a hypertension model with a high-salt diet.
Hypertension Model	A107852	Angiotensin II, human	Moligand™, ≥ 90%	Administer exogenously to constrict blood vessels, increase blood pressure, and establish a hypertension model.
Hypertension Model	N109211	Nω-Nitro-L-arginine methyl ester hydrochloride	≥ 98%	Inhibit nitric oxide synthase, reduce nitric oxide production, lead to blood vessel constriction and increased blood pressure, and establish a hypertension model.

Models of Respiratory System Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Asthma Model	A107820	Albumin from chicken egg white	≥ 98% (Agarose Gel Electrophoresis), Lyophilized Powder	As an allergen, it makes animals allergic via nebulized inhalation or intraperitoneal injection, etc., and stimulates the respiratory tract to cause asthmatic symptoms.
Asthma Model	A110527	Aluminum Hydroxide	PrimorTrace™, ≥ 99.99% metals basis 2-10μm	Enhances the immunogenicity of ovalbumin. Used in combination with ovalbumin, it helps animals produce a strong allergic reaction and increases the success rate of the model.
Asthma Model	H111796	Histamine, Free Base	Moligand™, ≥ 96%	Acts on histamine receptors of respiratory tract smooth muscles, causing bronchoconstriction, inducing asthma-like symptoms, and detecting airway reactivity.
Pulmonary Fibrosis Model	B649732	Bleomycin hydrochloride	≥ 98%	Induces pulmonary inflammation and fibrous hyperplasia through intratracheal injection, etc., leading to pulmonary fibrosis.
Acute Lung Injury Model	O108485	Oleic Acid	Moligand™, ≥ 99% (HPLC)	Intravenous injection triggers acute pulmonary inflammation and injury, establishing an acute lung injury model.

Models of Digestive System Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Gastric Ulcer Model	E111977	Ethanol	Analytical Standard, Moligand™, ≥ 99.9%(GC)	Orally administered or gavage, it destroys the protective barrier of the gastric mucosa, damages cells, and induces gastric ulcers.
Gastric Ulcer Model	A116165	Glacial Acetic Acid	Moligand™, Standard for GC, ≥ 99.8%(GC)	Locally applied to the gastric mucosa, it causes chemical damage and promotes ulcer formation.
Colon Cancer Model	A169090	Azoxymethane (AOM)	≥ 95%	In combination with Dextran Sodium Sulfate (DSS), it induces DNA damage and mutation, destroys the intestinal barrier, and promotes tumor development to establish the model.
Colon Cancer Model	N425449	N-Methyl-N-nitrosourea	10mM in DMSO	Acting on colon cells, it causes gene mutations and is intraperitoneally injected to establish a colon cancer model.
Pancreatitis Model	C305198	Ceruletide ammonium salt	≥ 99%	Multiple intraperitoneal injections stimulate the pancreas to secrete excessive pancreatic enzymes, leading to autodigestion and triggering acute pancreatitis.
Pancreatitis Model	L274353	L(+)-Arginine hydrochloride	PharmPure™, USP	A large dose of intraperitoneal injection causes microcirculatory disorders and inflammatory infiltration in the pancreas, establishing an acute pancreatitis model.
Inflammatory Bowel Disease Model	D110733	Dextran sulfate	Molecular weight 500,000, DNase/RNase/Protease-free	Added to drinking water and continuously given to trigger intestinal mucosal inflammation, establishing models such as ulcerative colitis.
Liver Injury Model	C639782	Carbon Tetrachloride	Analytical Standard, ≥ 99.9%	Intraperitoneal injection, etc., causes liver cell damage and necrosis, establishing acute or chronic liver injury models.
Liver Injury Model	G115553	D-(+)-Galactosamine hydrochloride	≥ 99%	It causes metabolic disorders and damage of liver cells, constructing an animal model of liver injury.

Models of Endocrine System Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Diabetes Model	S110910	Streptozocin	Moligand™, mixture of isomers, ≥ 98%	Selectively destroys pancreatic islet β cells, reduces insulin secretion, causes an increase in the blood sugar level of animals, and establishes a diabetes model.

Models of Endocrine System Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Diabetes Model	A109024	Alloxan Monohydrate	≥ 98%	Damages pancreatic islet β cells, leads to insufficient insulin secretion, and induces diabetes in animals.
Hypothyroidism Model	T113354	Levothyroxine Sodium Hydrate	≥ 98%	Administer an excessive amount of this drug to animals, simulate the hyperthyroidism state, and make animals exhibit hyperthyroidism symptoms such as increased metabolism and heart rate.
Hypothyroidism Model	P106338	Propylthiouracil	Moligand™, ≥ 98%	Inhibits thyroid peroxidase, blocks thyroid hormone synthesis, reduces hormone levels in the body, and establishes the hypothyroidism model.
Hypothyroidism Model	M106466	Methimazole	Moligand™, ≥ 98%	Inhibits thyroid hormone synthesis; stronger in efficacy than propylthiouracil; long-term administration induces hypothyroid symptoms in animals.

Models of Locomotor System Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Osteoarthritis Model	P164463	Papain	EnzymoPure™, ≥ 2000 units/mg, using casein as the substrate	Inject into the joint cavity to destroy the cartilage tissue and cause the degradation of the cartilage matrix.
Osteoarthritis Model	S755630	Sodium Iodoacetate	UltraBio™, ≥ 98%	Inject into the joint cavity to inhibit the enzyme activity of chondrocytes, resulting in cell damage and death.
Rheumatoid Arthritis Model	F393378	Freund's Complete Adjuvant	BCG content < 10mg/ml	As an immunoadjuvant, it is mixed with an antigen to induce an autoimmune response.
Osteoporosis Model	D137736	Dexamethasone	≥ 98%	Administer for a long term to inhibit osteogenesis, promote osteoclastogenesis, and lead to a decrease in bone mass.
Osteoporosis Model	R106320	Retinoic acid	Moligand™, ≥ 98%	Administration interferes with bone metabolism, increasing bone resorption and decreasing bone formation.

Models of Immune System Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Allergic Disease Model	A107820	Albumin from chicken egg white	≥ 98% (Agarose Gel Electrophoresis), Lyophilized Powder	As an allergen, it triggers various allergic disease models.
Allergic Disease Model	A110527	Aluminum Hydroxide	PrimorTrace™, ≥ 99.99%, metals basis, 2-10µm	Enhances the immunogenicity of ovalbumin and improves the success rate of the model.
Systemic Lupus Erythematosus Model	P106824	Pristane	≥ 95%	Intraperitoneal injection induces autoimmune responses, causing SLE-like symptoms such as positive antinuclear antibodies; a commonly used modeling reagent.
Systemic Lupus Erythematosus Model	H610884	Hydralazine	Moligand™, ≥ 98%	Interferes with immune regulation, induces autoantibody production, establishes the SLE model, and is suitable for immune mechanism research.

Models of Tumor Diseases

Types of Modeling	Cat.No	Product Name	Grade/Purity	Brief Introduction
Gastric Cancer Model	M425595	1-Methyl-3-nitro-1-nitrosoguanidine	10mM in DMSO	Added to the drinking water of animals, it causes the carcinogenesis of gastric mucosal cells and establishes a gastric cancer model.
Lung Cancer Model	B110854	Benzo(a)pyrene	≥ 96%	Injected into the trachea or applied to the lungs, it induces mutations in lung cells leading to carcinogenesis.
Lung Cancer Model	U108629	Urethane	≥ 99%	Intraperitoneal injection makes lung cells abnormally proliferate and differentiate, constructing a lung cancer model.

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