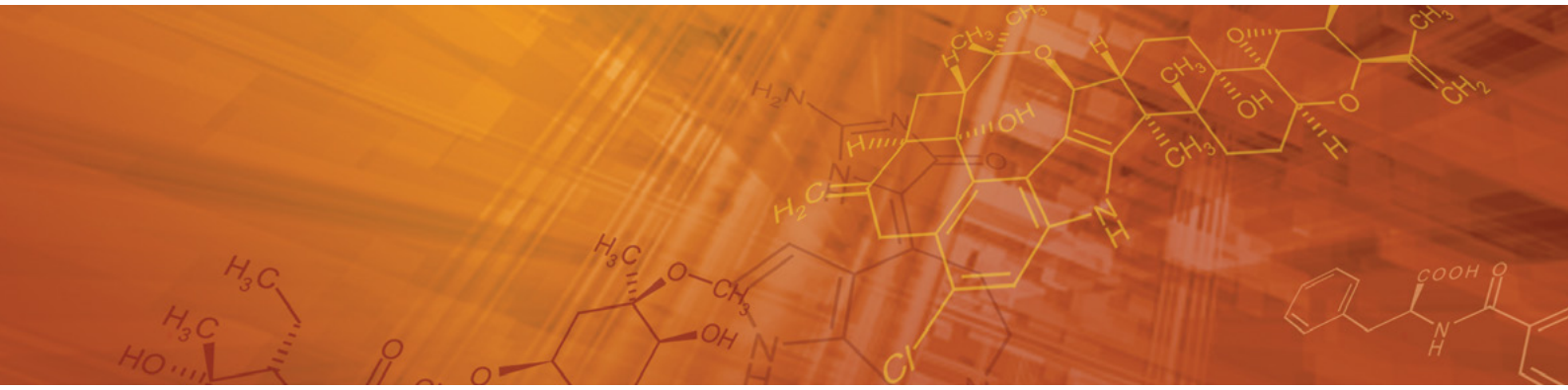
SCREEN-WELL® COMPOUND LIBRARIES



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Hematopoietic Toxicity
Myotoxicity
Nephrotoxicity

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FOCUSED COLLECTIONS OF UNIQUE COMPOUND LIBRARIES

SCREEN-WELL® Compound Libraries Complement Our Wide Range of Small Molecules

Enzo Life Sciences has a long and successful track record in identifying, synthesizing and commercializing known bioactives for use as research tool compounds and in assembling relevant sets of focused compounds for screening.

Our long-standing, flagship SCREEN-WELL Compound Library product family offers an easy, ready-to-use alternative for compound screening. Each library includes:

- A unique collection of small molecules including inhibitors, activators and/or inducers
- A complete documentation set that highlights activity descriptions, plate positions, physical information and a structural database (SD) file
- The ability to re-supply individual bulk compounds, custom libraries, or hard-to-source compounds

Extensive Offering

- A unique offering of focused compound libraries comprised of FDA-approved compounds, natural products, compounds for receptor de-orphaning, chemical genomics, and pathway targeting
- Current catalog of over 2,500 stand-alone small molecules including natural products, enzyme inhibitors, receptor ligands, drugs, lipids & fatty acids, etc.

Proven and Consistent

- Each SCREEN-WELL Library collection incorporates years of scientific expertise resulting in libraries that contain the right compounds in the right combination
- Synthetic chemistry capability with a staff of organic chemists experienced in diverse synthetic methods and techniques

Novel

- Libraries are composed of relevant small molecules, frequently including proprietary Enzo compounds

Easy and Cost-efficient

- All of our libraries come in a ready-to-screen format in biocompatible solvents, no reconstitution needed
- Ability to rapidly and inexpensively source compounds through a supplier network built over a 40 year history

Flexible

- Individual compounds available for re-supply even if not listed on our website
- Ability to supply bulk quantities and custom compounds in the mg to g scale

CONTENTS

TOXICITY

PROFILE ORGAN-SPECIFIC TOXICITY

SCREEN-WELL® Toxicity Libraries

Targeted SCREEN-WELL libraries from Enzo Life Sciences for cardiotoxicity, hepatotoxicity, hematopoietic toxicity, nephrotoxicity and myotoxicity contain compounds with defined and diverse organ-associated toxicity profiles. A variety of structurally and mechanistically different compound classes are included, as well as non-toxic controls. Compounds are dissolved in DMSO at 10 mM and aliquoted into deep-well plates at 100 or 500 µL per well. The libraries are useful for predictive toxicology screening, including high-content protocols.

- Better understand mechanisms of toxicity with your small molecule or candidate-drug of interest
- Compare your compound with known references for investigative toxicity
- Optimize formulation efficacy and safety

Cardiotoxicity

Major Toxicity Categories Include:

Arrhythmia	Cardiomyocyte Apoptosis	Carditis	Fibrosis & Carditis
Hypotension/Hypertension	Ion Channel Blockage	Mitochondrial Toxicity	Non-cardiotoxic Controls
Thrombosis			

Product Name	Compounds	Product #	Size
SCREEN-WELL Cardiotoxicity Library	130	BML-2850	100 µL, 500 µL

Hepatotoxicity

Major Toxicity Categories Include:

Cholestatic Effects	CYP450 Inactivation	Elevation of Liver Enzymes	Mallory Body Formation
Mitochondrial Toxicity	Non-hepatotoxic Controls	Steatosis	Toxic Metabolites

Product Name	Compounds	Product #	Size
SCREEN-WELL Hepatotoxicity Library	238	BML-2851	100 µL, 500 µL

Hematopoietic Toxicity

Major Toxicity Categories Include:

Anemia	Hematopoietically Non-toxic Controls	Leukopenia	Myelosuppression	Neutropenia	Thrombocytopenia

Product Name	Compounds	Product #	Size
SCREEN-WELL Hematopoietic Library	115	BML-2852	100 µL, 500 µL

Myotoxicity

Major Toxicity Categories Include:

Atrophy	Colchicine-induced Myopathy	Myalgia	Necrosis	Rhabdomyolysis	Thrombocytopenia

Product Name	Compounds	Product #	Size
SCREEN-WELL Myotoxicity Library	60	ENZ-LIB101	100 µL

Nephrotoxicity

Major Toxicity Categories Include:

Acute Renal Failure	Chronic Kidney Disease	Proximal and Distal Tubulopathy	Non-nephrotoxic Controls

Product Name	Compounds	Product #	Size
SCREEN-WELL Nephrotoxicity Library	86	ENZ-LIB100	100 µL

DRUG REPURPOSING

In addition to classic methods of drug discovery, drug repositioning or repurposing can be an important supplemental pathway for the discovery of new therapies.

FDA APPROVED DRUGS

The SCREEN-WELL® FDA Approved Drug Library contains 770 drug compounds carefully selected to maximize chemical and pharmacological diversity. The library contains clinically-relevant pharmacophores for SAR or toxicity studies and provides an ideal starting point for drug repurposing or repositioning programs.

- Revised to provide over 100 more compounds, including recent FDA approved drugs
- Most complete option for drug repurposing screens
- Contains diverse compounds approved for cardiovascular, neuropsychological, immunological, oncological and other uses
- 100% known bioactivity and greatest degree of drug-likeness available
- Comprehensive documentation includes compound list and SD files with indication and mechanism of action

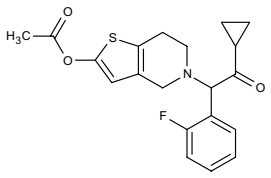
Library Includes:

Adrenergics	Anticholinesterases	Antineoplastics	COX-2 Inhibitors
Analgesics	Anticoagulants	Antiparasitics	Diuretics
Anthelmintics	Anticonvulsants	Antiplatelet	Erectile Dysfunction
Antiinflammatories	Antidepressants	Antiprotozoals	Estrogens
Antiacnes	Antidiabetics	Antipsychotics	Glucocorticoids
Antiarrhythmics	Antifungals	Antiulceratives	LO Inhibitors
Antiarthritics	Antihistaminergics	Antivirals	Muscle Relaxants
Antiasthmatics	Antihistamines	Atihyperlipidemics	Vasoconstrictors
Antibacterials	Antihypertensives	Bronchodilators	Vasodilators
Anticholinergics	Antiinfectants	Chelating Agents	Vitamins
Anticholinergics	Antimalarials	Cholinergics	

Product Name	Compounds	Product #	Size	Format
SCREEN-WELL FDA Approved Drug Library V2	775	BML-2843	100 µL	10 mM DMSO*

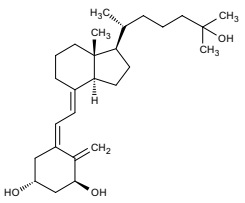
FDA APPROVED FEATURED COMPOUNDS

Prasugrel



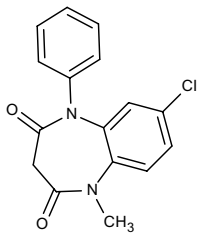
- High Purity >98%
- FDA Approved 2009
- Inhibits ADP receptors by irreversibly acting on the P2Y12 receptor on platelets.
- Anti-thrombotic

1α,25-Dihydroxyvitamin D3



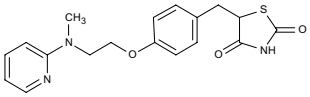
- High Purity Compound ≥99% (HPLC)
- Active hormonal form of vitamin D
- Antihypocalcemic Agent, Antihypoparathyroid Agent

Clobazam



- High Purity >98%
- FDA Approved 2011
- Binds at a distinct binding site associated with a Cl^- ionopore at the GABAA receptor increasing the duration of time for which the Cl^- ionopore is open
- Post-synaptic inhibitory effect of GABA in the thalamus is prolonged
- Anticonvulsant

Rosiglitazone



- High purity ≥97%
- Potent insulin sensitizing agent
- Peroxisome proliferator-activated receptor γ (PPAR-γ) agonist
- Hepatotoxic
- Antidiabetic

*Compounds are predominantly at a concentration of 10 mM unless otherwise stated. Select compounds dissolved in nuclease-free water.

PATHWAY TARGETING

One approach in drug discovery is to target a signaling pathway known to be involved in a disease, rather than aiming at a single target. Enzo Life Sciences offers a growing line of Pathway Targeting libraries to help with this approach.

AUTOPHAGY

The SCREEN-WELL® Autophagy Library contains 94 compounds with defined autophagy-inducing or -inhibiting activity. Compounds are dissolved in DMSO at 10 mM or 1 mM and aliquoted into deep-well plates at 100 or 500 µL per well. A variety of structurally and mechanistically different compound classes are included. The library is a useful tool for studying the roles of pro- and anti-autophagic molecules in cells as well as for use in *in vitro* applications.

Targets Include:

Calcium Channels	cAMP	Cytoskeleton	Epigenetics	ER Stress
Heat Shock	mTOR/PI3K	Proteasome	Select Kinases	... and more

Product Name	Compounds	Product #	Size
SCREEN-WELL Autophagy Library	94	BML-2837	100 µL, 500 µL

EPIGENETICS

The SCREEN-WELL Epigenetics Library contains 43 compounds with defined epigenetics-related activity. Compounds are dissolved in DMSO at 10mM and aliquoted into deep-well plates at 100 or 500 µL per well. A variety of structurally and mechanistically different compound classes are included. The library is a useful tool for chemical genomics, assay development, and other pharmacological applications.

Targets Include:

DNA Methyltransferases	HATs	HDACs	Histone Methyltransferases	Lysine Demethylases	SIRTs

Product Name	Compounds	Product #	Size
SCREEN-WELL Epigenetics Library	43	BML-2836	100 µL, 500 µL

WNT PATHWAY

The SCREEN-WELL Wnt Pathway Library contains 71 compounds with defined activity on the Wnt pathway. A variety of structurally and mechanistically different compound classes are included. The library is a useful tool for chemical genomics, assay development, and other pharmacological applications.

Targets Include:

Adenylate Cyclase	Axin	ß-catenin	COX2	Dishevelled	DKK
GSK3ß	LRP5/6	Porcupine	sFRP1	TCF	Wnt5a

Product Name	Compounds	Product #	Size
SCREEN-WELL Wnt Pathway Library	71	BML-2838	100 µL, 500 µL

INHIBITORS AND STANDARDS

Chemical genomics uses target-specific chemical ligands to modulate and understand the cellular or physiological function of all proteins. Small molecule modulation of cell function offers the advantages of temporal and spatial control not easily achieved with traditional molecular genetics approaches and can provide a first step toward the development of new therapeutic agents. While synthesis of new chemical entities is one aspect of chemical genomics, the development of sophisticated screens employing proteomics and noninvasive imaging techniques has allowed new functions to be ascribed to well-characterized small molecules.

CANCER INHIBITORS

The SCREEN-WELL® Cancer Library is a collection of 275 compounds that can be used for cancer inhibitor screening and assay development. The library contains small molecules affecting mTOR, aurora kinases, tyrosine kinases, PI3K, and HDAC, as well as many structurally and mechanistically different compound classes. This library is an essential tool for cancer inhibitor screening and drug development.

Targets Include:

mTOR	Aurora Kinases	Tyrosine Kinases	PI3K	HDAC

Product Name	Compounds	Product #	Size
SCREEN-WELL Cancer Library	275	ENZ-LIB102	100 µL

ICCB KNOWN BIOACTIVES

The SCREEN-WELL ICCB Known Bioactives Library of biologically active small organic molecules was developed in cooperation with the Harvard Institute of Chemistry and Cell Biology (ICCB; now the Broad Institute Chemical Biology Program (BCBP) and ICCB-Longwood).

Library Includes:

Actin & Tubulin Modulators	Gene Regulation Agents
GPCR Ligands	Ion Channel Blockers
Kinase Inhibitors	Lipid Biosynthesis Inhibitors
Nuclear Receptor Ligands	Phosphodiesterase Inhibitors
Protease Inhibitors	Second Messenger Modulators

Product Name	Compounds	Product #	Size
SCREEN-WELL ICCB Known Bioactives Library	472	BML-2840	100 µL

KINASE INHIBITORS

The SCREEN-WELL Kinase Inhibitor Library contains 80 known kinase inhibitors of well-defined activity. The library is ideal for chemical genomics, assay development, or as a reference set for secondary screening.

Targets Include:

BTK	CaM Kinase II	CDK
CKI & II	EGFR	GSK
IKK	Insulin Receptor	JAK
JNK	MAPK	MEK
MLCK	PI 3-Kinase	PDGFR
PKA	PKC	RAF
SAPK	Src-Family	VEGFR

Product Name	Compounds	Product #	Size
SCREEN-WELL Kinase Inhibitor Library	80	BML-2832	100 µL, 500 µL

INHIBITORS AND STANDARDS

ION CHANNEL LIGANDS

The SCREEN-WELL® Ion Channel Ligand Library contains 70 ion channel blockers and openers for use in characterizing and identifying ion channels in individual cells or tissue.

Targets Include:

Calcium Channels	Chloride Channels	Potassium Channels	Sodium Channels

Product Name	Compounds	Product #	Size
SCREEN-WELL Ion Channel Ligand Library	70	BML-2805	100 µL, 500 µL

PROTEASE INHIBITORS

The SCREEN-WELL Protease Inhibitor Library contains 53 known protease inhibitors of well-defined activity. The library includes inhibitors for a broad range of important proteases and is a convenient and cost-effective way to purchase a panel of protease inhibitors for chemical genomics, assay development, and other applications.

Targets Include:

ACE	Aminopeptidase B	Calpains
Caspsases	Cathepsins	DPPIV
Furin	Granzyme B	Kallikrein
MMPs	Neutrophil Elastase	Proteasome
γ-Secretase	Thrombin	TPPII

Product Name	Compounds	Product #	Size
SCREEN-WELL Protease Inhibitor Library	53	BML-2833	100 µL, 500 µL

PHOSPHATASE INHIBITORS

The SCREEN-WELL Phosphatase Inhibitor Library contains 33 known phosphatase inhibitors of well-defined activity. The library is ideal for chemical genomics, assay development and as a reference set for secondary screening.

Targets Include:

Calcineurin (PP2B)	CD45	CDC25
JSP-1	PP1	PP2A
PRL-1	PRL-3	PTEN

Product Name	Compounds	Product #	Size
SCREEN-WELL Phosphatase Inhibitor Library	33	BML-2834	100 µL, 500 µL

REDOX

The SCREEN-WELL REDOX Library contains 84 compounds with defined pro-oxidant or antioxidant activity. The library is a useful tool for studying the roles of pro- and antioxidant molecules in cells as well as for use in *in vitro* applications.

Library Includes:

Glutathione Peroxidase Mimetics	Hydroperoxides	Lazaroids
Metal Chelators	Polyphenolics	Radical Scavengers
Sod Mimetics	Thiols	Thiol Traps

Product Name	Compounds	Product #	Size
SCREEN-WELL REDOX Library	84	BML-2835	100 µL, 500 µL

RECEPTOR DE-ORPHANING

The Enzo Life Sciences SCREEN-WELL® Libraries are ideal tools for receptor de-orphaning approaches. The SCREEN-WELL Libraries for receptor de-orphaning include plates of bioactive lipids, endocannabinoids, fatty acids, neurotransmitters, nuclear receptor ligands and orphan ligands, and compounds with defined or speculative biological activity whose binding partner has not been identified. Each compound is dissolved in a biocompatible solvent and aliquoted to a 96-well plate. This format, together with the focus of each library on a defined group of ligands, makes the SCREEN-WELL Libraries convenient and cost-effective collections of related compounds suitable for performing individual assays or high-throughput screening.

NEUROTRANSMITTERS

The SCREEN-WELL Neurotransmitter Library contains 661 CNS receptor ligands, including endogenous neurotransmitters, agonists, antagonists and drugs in a 96-well format. The library is ideal for screening orphan G protein-coupled receptors, target validation, secondary screening, assay development, and for other pharmacological applications. The library contains 13 classes of ligands in 10 deep-well plates. Plates are available individually or as a complete set.

Library Includes:

Adrenergics	Cholinergics	Dopaminergics	GABAergics
Histaminergics (& Melatonin Ligands)	Ionotropic Glutamatergics	Metabotropic Glutamatergics	Opioids (& Sigma Ligands)
Purinergics	Serotonergics		

Product Name	Compounds	Product #	Size
SCREEN-WELL Neurotransmitter Library (10-plate set)	661	BML-2810	100 µL, 500 µL
SCREEN-WELL Adrenergics	83	BML-2811	100 µL, 500 µL
SCREEN-WELL Dopaminergics	80	BML-2812	100 µL, 500 µL
SCREEN-WELL Serotonergics	79	BML-2813	100 µL, 500 µL
SCREEN-WELL Opioids (& Sigma Ligands)	74	BML-2814	100 µL, 500 µL
SCREEN-WELL Cholinergics	67	BML-2815	100 µL, 500 µL
SCREEN-WELL Histaminergics (& Melatonin Ligands)	41	BML-2816	100 µL, 500 µL
SCREEN-WELL Ionotropic Glutamatergics	60	BML-2817	100 µL, 500 µL
SCREEN-WELL Metabotropic Glutamatergics	49	BML-2818	100 µL, 500 µL
SCREEN-WELL GABAergics	56	BML-2819	100 µL, 500 µL
SCREEN-WELL Purinergics (& Adenosines)	72	BML-2820	100 µL, 500 µL

BIOACTIVE LIPIDS

The SCREEN-WELL Bioactive Lipid Library contains 190 bioactive lipids aliquoted to 3 x 96-well plates. This library is ideal for screening or identifying orphan G protein-coupled receptors (GPCR's) and nuclear receptors. It can also useful for assay development, secondary screening and other pharmacological applications.

Library Includes:

Agonists & Antagonists	Cannabinoids
Farnesyl/Geranylgeranyl Derivatives	HETEs, deHETEs and Hepoxilins
Leukotrienes and Lipoxins	LPA & Phosphatidic Acids
Octadecanoids	PAFs
Polyunsaturated Fatty Acids	Prostaglandins & Thromboxanes
Retinoids and Vitamin D Metabolites	Sphingolipids

Product	Compounds	Product #	Size
SCREEN-WELL Bioactive Lipid Library	190	BML-2800	100 µL, 500 µL

RECEPTOR DE-ORPHANING

ORPHAN LIGANDS

The SCREEN-WELL® Orphan Ligand Library contains 83 compounds with defined, putative, potential or speculative activity whose protein binding partners have not been identified. The library is a rich source of potential ligands for receptor de-orphaning.

Library Includes:

D-Amino Acid Derivatives	Endo-Alkaloids	Endogenous β-carbolines	Neurotransmitter Metabolites
Nicotine Congeners	Novel Actives	Urinary Metabolites	

Product Name	Compounds	Product #	Size
SCREEN-WELL Orphan Ligand Library	83	BML-2825	500 µL

ENDOCANNABINOIDS

The SCREEN-WELL Endocannabinoid Library contains 58 compounds with defined, putative, potential or speculative activity at cannabinoid (CB) receptors and TRPV channels. The library is an array of 10 different fatty acids and 6 different polar head groups, and is a source of known and novel compounds for receptor de-orphaning, assay development and as a reference set for secondary screening.

Library Includes:

Acyl-dopamines	Acyl-GABAs	Amides	Ethanolamides	Lipo-amino Acids

Product Name	Compounds	Product #	Size
SCREEN-WELL Endocannabinoid Library	58	BML-2801	100 µL, 500 µL

FATTY ACIDS

The SCREEN-WELL Fatty Acid Library contains 65 fatty acids of varying saturation and chain length. Many free fatty acids and their metabolites serve as precursors to important signaling systems (e.g. prostaglandins), act directly as receptor ligands or enzyme inhibitors, and have pre- or anti-atherosclerotic and anti-hypertensive properties through mechanisms that are still being characterized. Therefore, a diverse set of fatty acids can be a rich source of compounds for receptor de-orphaning, inhibitor screening, and high content screening. This set contains both fatty acids with defined activities and fatty acids with putative biological activities.

Library Includes:

Arachidonic Acid	C10-24 Chain Length	E and Z Isomers	Linolenic Acid	Unsaturated & Saturated Fatty Acids	γ-Linolenic Acid

Product Name	Compounds	Product #	Size
SCREEN-WELL Fatty Acid Library	65	BML-2803	100 µL, 500 µL

NUCLEAR RECEPTOR LIGANDS

The SCREEN-WELL Nuclear Receptor Ligand Library contains 74 compounds with defined, putative and potential activity at nuclear receptors. Receptor agonists and antagonists are included. The library is an ideal tool for receptor de-orphaning, assay development and other pharmacological applications.

Targets Include:

AHR	CAR	ER	FXR	LXR	PPAR	PXR	RAR	RXR	VDR

Product Name	Compounds	Product #	Size
SCREEN-WELL Receptor Ligand Library	74	BML-2802	100 µL, 500 µL

NATURAL PRODUCTS

Natural products are an unsurpassed source of chemical diversity and are an ideal starting point for any screening program in the search for pharmacologically active small molecules. The Enzo Natural Products Library is a collection of over 500 compounds of known structure in a ready-to-screen format, featuring:

- More than 500 compounds supplied in DMSO at 2.0 mg/mL
- Available in 100 µL and 500 µL sizes
- Individual compounds or custom subsets also available

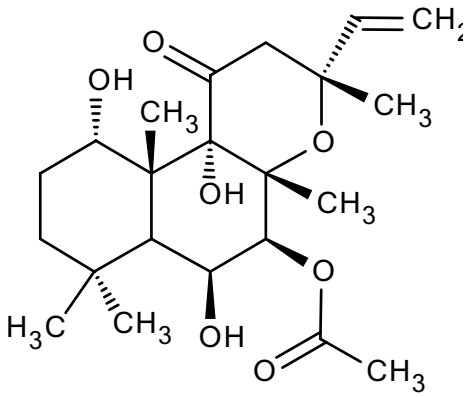
Library Includes:

Alkaloids	Coumarins	Flavones	Isoflavones
Macrolides	Peptolides	Synthetic Derivatives	Terpenoids

Product Name	Compounds	Product #	Size
SCREEN-WELL Natural Products Library	502	BML-2865	100 µL, 500 µL

PRODUCT HIGHLIGHT

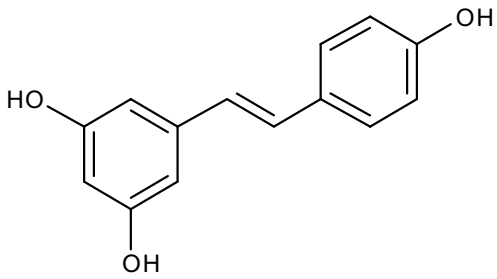
Forskolin



- ≥99% (TLC)
- Isolated from Coleus forskohlii
- Activates adenylate cyclase by directly interacting with the catalytic unit of the enzyme leading to an increase in the intracellular concentration of cAMP. Inhibits ion channels by a mechanism that does not involve cAMP. Non-competitive inhibitor of nicotinic acetylcholine receptors. Induces neuronal differentiation in stem cells and several neuroblastoma.

PRODUCT HIGHLIGHT

Resveratrol



- ≥98% (TLC)
- Phenolic antioxidant
- Found in grapes and wine
- Protects against 4-hydroxynonenal (4-HNE) induced oxidative stress and apoptosis. Shows cancer chemopreventive activity. Specific inhibitor of cyclooxygenase-1 (COX-1). Inhibits the hydroperoxidase activity of COX-1.

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