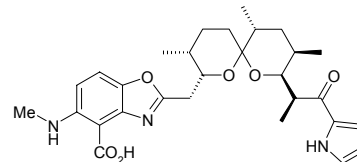


4. PRODUCTS FOR LIFE SCIENCE RESEARCH

A23187, free acid

LS-1003 **Calcimycin, Calcium Ionophore A23187**
 (6*S*-(6α(2*S**,3*S**),8β(2*R**),9β,11α))-5-(methylamino)-2-((3,9,11-trimethyl-8-(1-methyl-2-oxo-2-(1*H*-pyrrol-2-yl)ethyl)-1,7-dioxaspiro(5.5)undec-2-yl)methyl)-4-Benzoxazolecarboxylic acid



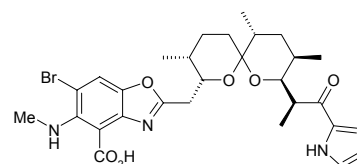
A23187, mixed Mg/Ca salt

LS-1039 Approx. 1:1 molar ratio Ca:Mg
 CAS: 52665-69-7, C₂₉H₃₇N₃O₆, 523,63 g/mole

From *Streptomyces chartreuses*; Forms stable complexes with divalent cations. Increases intracellular Ca⁺⁺ levels. An ionophorous, polyether antibiotic from *Streptomyces chartreusensis*. It binds and transports cations across membranes and uncouples oxidative phosphorylation while inhibiting ATPase of rat liver mitochondria. The substance is used mostly as a biochemical tool to study the role of divalent cations in various biological systems.

4-Bromo-A23187

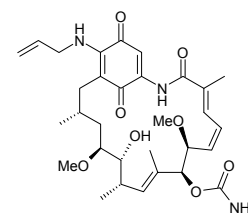
LS-1001 CAS: 76455-82-8
 C₂₉H₃₆BrN₃O₆, 602,53 g/mole



Brominated derivative of A23187. A23187 is an ionophore antibiotic that forms dimeric complexes with divalent cations such as Mn²⁺ and Ca²⁺. Nonfluorescent calcium ionophore used as a calibration standard for determining cytoplasmic calcium ions by fluorescent probes.

17-AAG

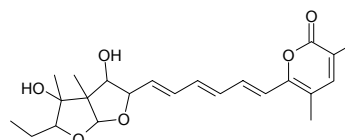
LS-1000 **17-(Allylamino)-17-demethoxygeldanamycin**
 CAS: 75747-14-7, C₃₁H₄₃N₃O₈, 585,7 g/mole



A semi-synthetic derivative of Geldanamycin. 17AAG is an ansamycin antibiotic which binds to Hsp90 (Heat Shock Protein 90) and alters its function. 17-AAG is less hepato-toxic than Geldanamycin. A potent antitumor agent. Inhibits oncogenic protein kinases and tyrosine kinase. A potent inhibitor of the nuclear hormone receptor family. Benzoquinone ansamycin antibiotic which binds to Hsp90 (Heat Shock Protein 90) and alters its function.

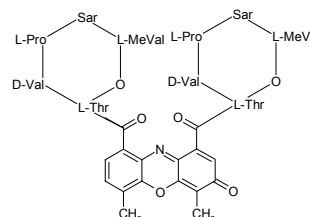
AB-5529

LS-1092 CAS: 220383-76-6
 C₂₃H₃₀O₆, 402,48 g/mole



Actinomycin D
Actinomycin IV, Actinomycin C1, Dactinomycin

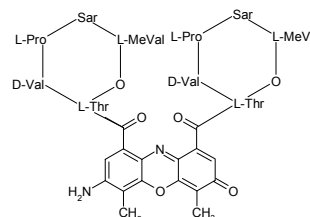
LS-1004 CAS: 50-76-0, C₆₂H₈₆N₁₂O₁₆, 1255,5 g/mole



From *Streptomyces parvulus*; Antineoplastic antibiotic. Inhibits DNA-primed RNA polymerase and DNA polymerase. An apoptosis inducer. Antineoplastic drug

7-Aminoactinomycin D

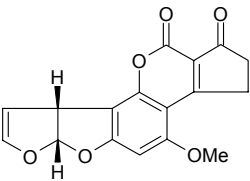
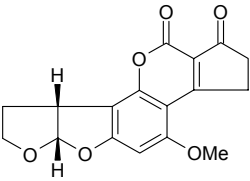
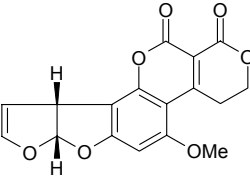
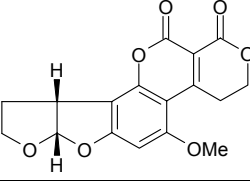
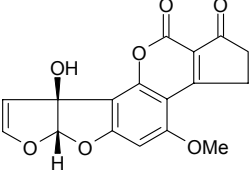
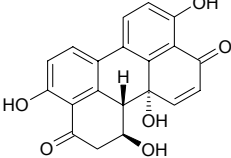
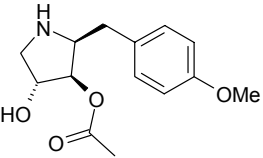
LS-1002 CAS: 7240-37-1, C₆₂H₈₇N₁₃O₁₆, 1270,4 g/mole



Like Actinomycin D is DNA intercalator. Has been used in DNA analysis. Binds to single stranded DNA. An inhibitor of DNA-primed RNA polymerase and DNA polymerase. Induces apoptosis. Used as a fluorescent DNA Stain. Useful tool in determining apoptosis

Most Compounds on stock - Please Inquire for Price and Availability!



LS-1005	Aflatoxin B1 CAS: 1162-65-8, C ₁₇ H ₁₂ O ₆ , 312,3 g/mole From <i>Aspergillus flavus</i> ; A potent hepatotoxic and hepatocarcinogenic mycotoxin. Mutagenic, teratogenic, and causes immunosuppression in animals.	
LS-1006	Aflatoxin B2 CAS: 7220-81-7, C ₁₇ H ₁₄ O ₆ , 314,3 g/mole From <i>Aspergillus flavus</i> ; A potent hepatotoxic and hepatocarcinogenic mycotoxin. Mutagenic, teratogenic, and causes immunosuppression in animals.	
LS-1007	Aflatoxin G1 CAS: 1165-39-5, C ₁₇ H ₁₂ O ₇ , 328,32 g/mole From <i>Aspergillus flavus</i> ; A potent hepatotoxic and hepatocarcinogenic mycotoxin. Mutagenic, teratogenic, and causes immunosuppression in animals. Potent liver carcinogen and DNA-damaging agent.	
LS-1008	Aflatoxin G2 CAS: 7241-98-7, C ₁₇ H ₁₄ O ₇ , 330,3 g/mole From <i>Aspergillus flavus</i> ; A potent hepatotoxic and hepatocarcinogenic mycotoxin. Mutagenic, teratogenic, and causes immunosuppression in animals. Potent liver carcinogen and DNA-damaging agent.	
LS-1009	Aflatoxin M1 CAS: 6795-23-9, C ₁₇ H ₁₂ O ₇ , 328,28 g/mole From <i>Aspergillus flavus</i> ; A potent hepatotoxic and hepatocarcinogenic mycotoxin, found in milk of cows fed on meal contaminated with aflatoxin B1. Potent liver carcinogen and DNA-damaging agent. It is also mutagenic, teratogenic, and causes immunosuppression in animals.	
LS-1075	Alamethicin, Antibiotic U-22324 A cyclic nonadecapeptide antibiotic that can act as an ionophore and is produced by strains of <i>Trichoderma viride</i> . CAS: 27061-78-5, C ₉₂ H ₁₅₀ N ₂₂ O ₂₅ , 1964,3 g/mole <small>1. Kemper RA, Nabb DL. In Vitro Studies in Microsomes from Rat and Human Liver, Kidney, and Intestine Suggest That Perfluorooctanoic Acid Is Not a Substrate for Microsomal UDP-Glucuronosyltransferases. Drug Chem Toxicol. 2005;28(3):281-7. 2. Ma L, Vaz FM, Gu Z, Wanders RJ, Greenberg ML. The human TAZ gene complements mitochondrial dysfunction in the yeast taz1Delta mutant. Implications for Barth syndrome. J Biol Chem. 2004 Oct 22;279(43):44394-9. 3. Lee MT, Chen FY, Huang HW. Energetics of pore formation induced by membrane active peptides. Biochemistry. 2004 Mar 30;43(12):3590-9. 4. Benedetti A, Fulceri R, Allan BB, Houston P, Sukhodub AL, Marcolongo P, Ethell B, Burchell B, Burchell A. Histone 2A stimulates glucose-6-phosphatase activity by permeabilization of liver microsomes. Biochem J. 2002 Oct 15;367(Pt 2):505-10. 5. Broekemeier KM, Iben JR, LeVan EG, Crouser ED, Pfeiffer DR. Pore formation and uncoupling initiate a Ca²⁺-independent degradation of mitochondrial phospholipids. Biochemistry. 2002 Jun 18;41(24):7771-80. 6. Amiche M, Seon AA, Wroblewski H, Nicolas P. Isolation of dermatoxin from frog skin, an antibacterial peptide encoded by a novel member of the dermaseptin genes family. Eur J Biochem. 2000 Jul;267(14):4583-92.</small>	
LS-1094	Alterperyleneol, Alteichin CAS: 88899-62-1, C ₂₀ H ₁₄ O ₆ , 350,32 g/mole	
LS-1010	Anisomycin CAS: 22862-76-6, C ₁₄ H ₁₉ NO ₄ , 265,31 g/mole From <i>Streptomyces griseolus</i> ; Activates P54 and MAP Kinase. Involves in the activation of stress activated protein kinases	

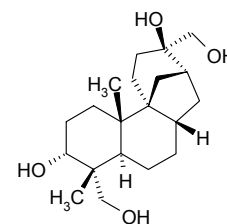


Aphidicolin, (+)-Aphidicolin

LS-1011

CAS: 38966-21-1, C₂₀H₃₄O₄, 338,49 g/mole

From *Nigrospora oryzae*; A tetracyclic diterpene antibiotic with antiviral and antimithotal properties. Blocks the cell cycle at early S-phase. Specific inhibitor of DNA polymerase α , δ in eukaryotic cells and in some viruses. Apoptose inducer in HeLa cells. Aphidicolin is a tool in cell proliferation and differentiation research. Aphidicolin may possibly be used for controlling excessive cell proliferation in cancer, psoriasis or other dermatitis with little or no adverse effect upon non-multiplying cells.

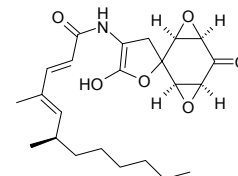


Aranorosin A

LS-1095

N-(Dihydro-5'-hydroxy-6'-oxospiro(4,8)-dioxatricyclo(5.1.0.03,5)octane-2,2'(3'H)-furan)-4'-yl)-4,6-dimethyl-2,4-dodecadienamide

CAS: 117184-53-9, C₂₃H₃₁NO₆, 417,51 g/mole

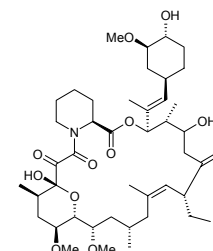


Ascomycin

LS-1012

CAS: 11011-38-4, C₄₃H₆₉NO₁₂, 792,03 g/mole

From *Streptomyces hygroscopicus* var *ascomiticus*
A potent immunosuppressant. Inhibits allogenic T-lymphocyte proliferation. A 21-ethyl analog of FK506. Allogenic T-lymphocyte proliferation inhibitor. Calcineurin phosphatase inhibitor. Macrolide-related antibiotic.

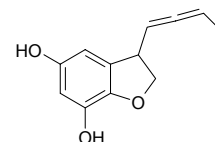


Asperfuran

LS-1096

(R-(E,E))-2,3-dihydro-2-(1,3-pentadienyl)-5,7-benzofurandiol

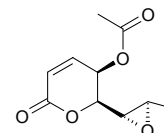
CAS: 129277-10-7, C₁₃H₁₄O₃, 218,25 g/mole



Asperlin, U 13933

LS-1097

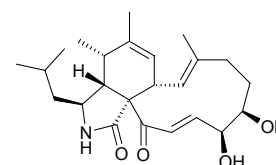
CAS: 30387-51-0, C₁₀H₁₂O₅, 212,2 g/mole



Aspochalasin D

LS-1098

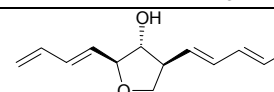
CAS: 71968-02-0, C₂₄H₃₅NO₄, 401,54 g/mole



Aureonitol

LS-1099

CAS: 71774-51-1, C₁₃H₁₈O₂, 206,28 g/mole

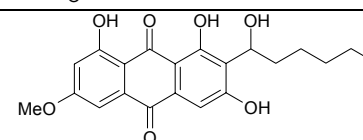


Averantin 6 methylether

LS-1101

1,3,8-trihydroxy-2-(1-hydroxyhexyl)-6-methoxy-9,10-anthracenedione

C₂₁H₂₂O₇, 386,41 g/mole

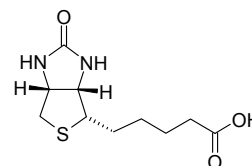


D-Biotin, Vitamin H

LS-1070

Hexahydro-2-oxo-1H-thieno[3,4-d]imidazole-4-pentanoic acid

CAS: 58-85-5, C₁₀H₁₆N₂O₃S, 244,31 g/mole



5g	35,- €
25g	125,- €
100g	400,- €

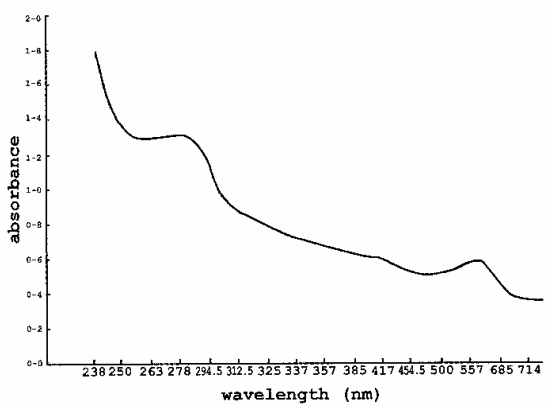
FERMENTATION Reactors available for multi-KG Productions



Bacteriorhodopsin, wild type

PRO1010	Bacteriorhodopsin is a transmembrane spanning protein that transports protons across a cell membrane upon the absorption of light.	25mg 100mg	550,- € 1650,- €
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Inquiry for multi Gram quantities!

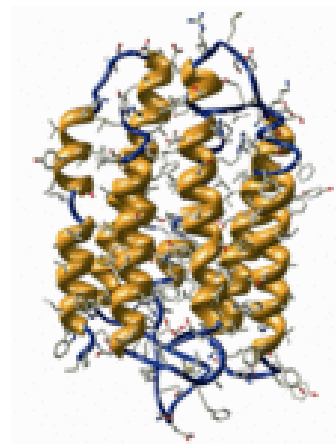
<p>Properties:</p> <p>Molecular weight: 26.548 Da No. of amino acids: 248</p> <p>Decade extinction Coefficient: 63.000 L/mole Spectral range: 238-714 nm</p> <p>Composition: Protein: 75% Lipid: 25% Colour: purple</p> <p>Supplied as solution in water.</p>	 <p>The graph shows absorbance on the y-axis (ranging from 0.0 to 2.0) and wavelength in nm on the x-axis (ranging from 238 to 714). The curve starts at an absorbance of approximately 1.8 at 238 nm, drops to a local minimum of about 1.3 at 263 nm, rises to a local maximum of about 1.4 at 278 nm, then drops sharply to about 0.8 at 312.5 nm, and continues to decrease with a small secondary peak at 557 nm before ending at approximately 0.4 at 714 nm.</p>
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Find some recent applications in the following publications:

- **Evaluation of the interaction of various agents with loop 3 of the G-protein** (Ruoho, A., US patent application 20040248202)
- **Production of molecular memories** (Bocian et al., US patent application 20050041494)
- **Optical coherence tomography** (US patent application 20050036150)
- **Biosensors** (Lahey, J., et al, US patent application 20040096895)
- **Insertion in membranes** (US patent 5,339,273)
- **Identification of marrow derived hematopoietic cells** (Scadden, D. et al, US patent application 20040072259)
- **Production of electricity from light** (Montemagno, C. et al, US patent application 20040049230)
- **Preparation of cell mimics** (Lopez, G. et al, US patent application 20040005352)
- **Authentication of banknotes, check, security work and art** (Happ, N. and Seitz, A. US patent 6,616,964)
- **Anchors for supported membranes** (Sharma, MK, et al, Bioconjug. Chem. 2004, 15(4)942-947)
- **Optical filters** (Zhang, C., Opt. Lett. 2005, Jan 1, 30(1)81-3)

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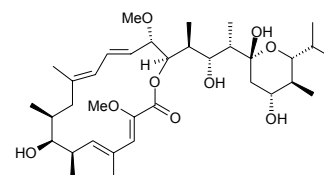




LS-1081

Bafilomycin A1, 95%

CAS: 88899-55-2, C₃₅H₅₈O₉, 622,8 g/mole

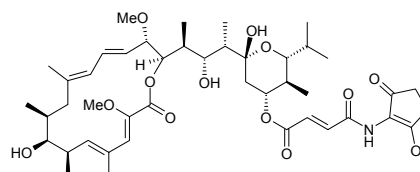


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LS-1082

Bafilomycin B1, 95%

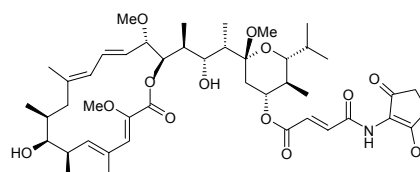
CAS: 88899-56-3
C₄₄H₆₅NO₁₃, 815,99 g/mole



LS-1083

Bafilomycin B2, 95%

CAS: 88907-48-6
C₄₅H₆₇NO₁₃, 830,03 g/mole

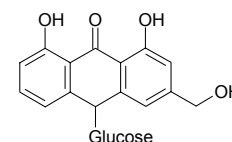


LS-1080

Barbaloin

10-Glucopyranosyl-1,8-dihydro-3-(hydroxymethyl)-9-anthracenone

CAS: 5133-19-7, C₂₁H₂₂O₉, 418,39 g/mole

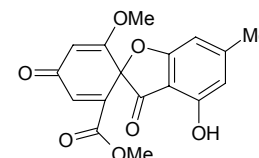


LS-1102

Bisdechlorogodin, Antibiotic C3368-A

4-hydroxy-6'-methoxy-6-methyl-3,4'-dioxo-Spiro(benzofuran-2(3H),1'-(2,5)cyclohexadiene)-2'-carboxylic acid methyl ester

CAS: 3209-31-2, C₁₇H₁₄O₇, 330,3 g/mole
A fungus-derived nucleoside transport inhibitor

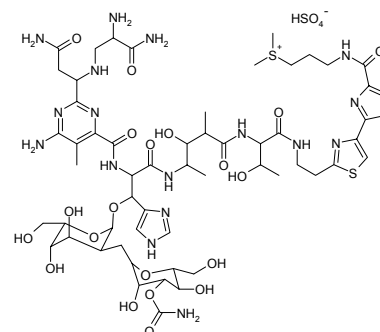


LS-1013

Bleomycin Sulfate, Blenoxan

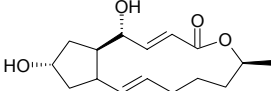
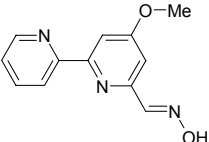
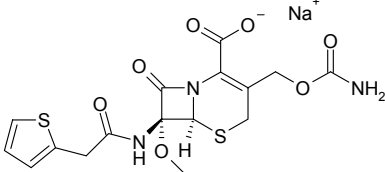
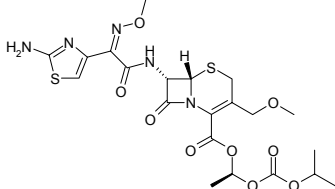
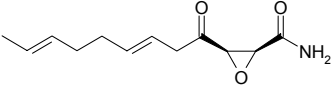
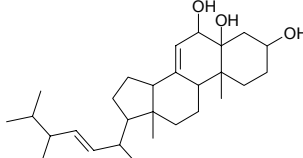
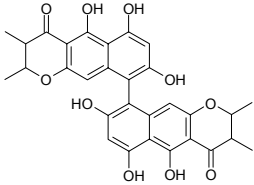
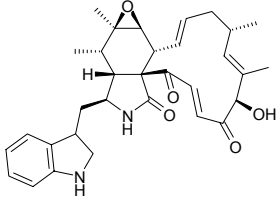
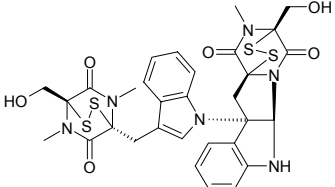
CAS: 9041-93-4
C₅₆H₈₆N₁₇O₂₀S₃*HSO₄, 11413,60*97,07 g/mole

From *Streptomyces verticillus*; Mixture of cytotoxic glycopeptides inhibits DNA synthesis. An antineoplastic agent.



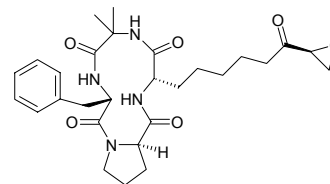
Inquire for Any other Product, produced by Fermentation!



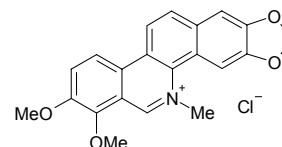
LS-1014	(+)-Brefeldin A Ascotoxin, Cyanein, Decumbin, Nectrolide, Synergisidin CAS: 20350-15-6, C ₁₆ H ₂₄ O ₄ , 280,4 g/mole	
	From <i>Eupenicillium brefeldianum</i> ; A macrocyclic lactone from fungal source, exhibiting a wide range of antibiotic activity. Inhibitor of protein translocation from endoplasmic reticulum (ER) to the Golgi apparatus. Inhibitor of intracellular protein transport and protein secretion.	
LS-1193	Caerulomycin A, Caerulomycin, Cerulomycin CAS: 21802-37-9 C ₁₂ H ₁₁ N ₃ O ₂ , 229,23 g/mole	
LS-1072	Cefoxitin Na CAS: 33564-30-6 C ₁₆ H ₁₇ N ₃ O ₇ S ₂ Na, 449,44 g/mole	
LS-1015	Cefpodoxime Proxetil, Vantin (RS)-1-(isopropoxycarbonyloxy)ethyl (+)-(6R,7R)-7-[2-(2-amino-4-thiazolyl)-2-((Z)methoxy-imino)acetamido]-3-methoxymethyl-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylate CAS: 87239-81-4 C ₂₁ H ₂₇ N ₅ O ₉ S ₂ , 557,6 g/mole	
LS-1016	Cerulenin CAS: 17397-89-6, C ₁₂ H ₁₇ NO ₃ , 223,26 g/mole	
	From <i>Cephalosporum caerulens</i> ; An antifungal antibiotic that inhibits sterol and fatty acid biosynthesis. Used as a biochemical tool. Shows to cause dramatic weight loss in animals.	
LS-1104	Cerevisterol CAS: 516-33-0, C ₂₈ H ₄₆ O ₃ , 430,68 g/mole	
LS-1105	Chaetochromin-A Chaetochromin B, Chaetochromin D, Chaetochromin, stereoisomer CAS: 75514-37-3, C ₃₀ H ₂₆ O ₁₀ , 546,54 g/mole	
LS-1106	Chaetoglobosin Chaetoglobosin A, B, C, D, E, F, K, Q, R, T CAS: 50335-03-0, C ₃₂ H ₃₈ N ₂ O ₅ , 530,67 g/mole	
LS-1108	Chetomin, Chaetomin CAS : 1403-36-7, C ₃₁ H ₃₀ N ₆ O ₆ S ₄ , 710,88 g/mole	
	Small molecule blockade of transcriptional coactivation of the hypoxia-inducible factor pathway. Kung AL, Zabudoff SD, France DS, Freedman SJ, Tanner EA, Vieira A, Cornell-Kennon S, Lee J, Wang B, Wang J, Memmert K, Naegeli HU, Petersen F, Eck MJ, Bair KW, Wood AW, Livingston DM. Cancer Cell. 2004 Jul;6(1):33-43.	



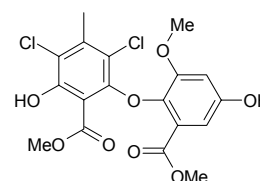
LS-1109 **Chlamydocin**
 CAS : 53342-16-8, C₂₈H₃₈N₄O₆, 526,64 g/mole



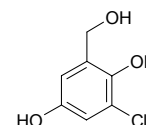
LS-1017 **Chlerythrin Cl**
 CAS: 3895-92-9, C₂₁H₁₈NO₄Cl, 383,8 g/mole
 From Chelidonium majus L. A potent inhibitor of Protein Kinase C



LS-1089 **3,5-Dichloroastrerac acid**
 C₁₈H₁₆Cl₂O₈, 431,22 g/mole

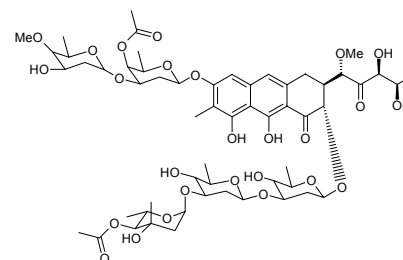


LS-1110 **Chlorogentisyl alcohol, Amudol**
 C₇H₇ClO₃, 174,58 g/mole

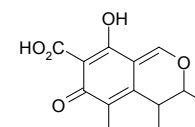


LS-1018 **Chromomycin A3, Toyomycin**
 CAS: 7059-24-7
 C₅₇H₈₂O₂₆, 1183,3 g/mole

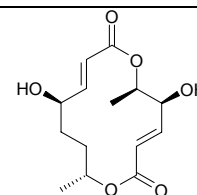
From Streptomyces griseus; Membrane-impermeant G/C-specific fluorescent DNA-binding dye. Antibacterial antibiotic. Antitumor antibiotic that inhibits RNA synthesis, especially in solid tumors.



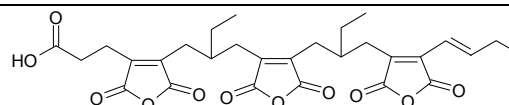
LS-1019 **Citrinin**
 CAS: 518-75-2, C₁₃H₁₄O₅, 250,25 g/mole
 From Penicillium citrinum



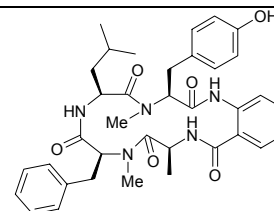
LS-1111 **Clonostachdiol**
 CAS: 147317-35-9, C₁₄H₂₀O₆, 284,31 g/mole



LS-1113 **Cordyanhydride B**
 CAS: 241131-42-0, C₂₉H₃₂O₁₁, 556,56 g/mole



LS-1114 **Cycloaspeptide A**
 CAS: 691363-62-9, C₃₆H₄₃N₅O₆, 641,76 g/mole





Collagenase with Very High Activity

Lyophilized powder with activity > 1300 Mandl units/mg dry weight.

From hepatopancreas of the king crab paralithodes camchatica

A mixture of proteases, mainly Collagenase, DNase, Elastase and Chitinase.

Is highly active against all Types of collagen including Type III and Type IV which are stable against treatment with clostridial collagenases.

Stable at pH 6,5-8,5. Optimal activity at pH 7,7 at 37°C.

Collagenase with Very High Activity (Grade A)

PRO1005	100mg:	> 130.000 Mandl Units	375,- €	Inquiry for multi Gram quantities!
	1g:	> 1.300.000 Mandl Units	1.500,- €	

Collagenase with Very High Activity (Grade B)

PRO1006	100mg:	> 70.000 Mandl Units	150,- €	Inquiry for multi Gram quantities!
	1g:	> 700.000 Mandl Units	750,- €	

Unit definition:

One Mandl unit corresponds to the amount of enzyme that will release 1.0 µmol of Leu-equivalents from collagen in 5 h at 37°C and pH 7,5.

Properties:

Highly active against various Types of collagen including Type III and Type IV, which are resistant against clostridium collagenases.

In contrast to microbial collagenases the crab enzymes are good general proteases, able to cleave standard synthetic and protein substrates and possess a chymotrypsin-, trypsin- and elastase-like specificity [1].

Collagenase has now replaced the wet-to-dry dressing and have become a standard in burn care protocols [2].

Enzymes from king crab are an effective treatment for scalds, sores and trophic ulcers that were incurable before [3] furthermore it has been reported to accelerate human keratinocyte responses to injury and wound healing [4]. Several other properties have been described in the literature:

- increase of the release of plasminogen activator [5];
- reveals potent fibrinolytic activity [6];
- permeates aseptic and purulent wounds [7];
- effective removal of necrotic debris [8];
- hydrolyzes effectively type I and type III collagens, gelatine and fibrinogen [9].

Literature:

- [1] Klimova et al, *Biochem Biophys Res Commun.* 1990 Feb 14; **166(3)**, 1411-20.
- [2] Frye and Luterman, *WOUNDS 2004*, **16(9 suppl)**, 6-11.
- [3] *Medical research news*, Friday 2-Jul-2004.
- [4] Ira M. Herman, *WOUNDS 2004*, **16 (9 suppl)**, 1-5.
- [5] Isaev et al, *Vopr Med Khim*, 1994, **40**, 46-48.
- [6] Andreenko et al, *Vopr Med Khim*, 1994, **40**, 43-46
- [7] Sakharov et al, *Vopr Med Khim*, 1994, **40**, 18-20.
- [8] Sakharov et al, *Vopr Med Khim*, 1994, **3**, 51-55.
- [9] Sakharov et al, *Comp. Biochem. Phys. Biochem. Mol. Biol.* 1994, **107**, 411-417.

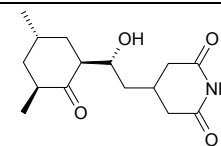


Cycloheximide

LS-1084

Actidione, Acti-Aid, Naramycin, Naramycin-A, Zygomycin-D

(1S-(1alpha(S*),3alpha,5beta))-4-(2-(3,5-dimethyl-2-oxocyclohexyl)-2-hydroxyethyl)-2,6-Piperidinedione



CAS: 66-81-9, C₁₅H₂₃NO₄, 281,35 g/mole

Antibiotic substance isolated from streptomycin-producing strains of *Streptomyces griseus*. It acts by inhibiting elongation during protein synthesis.

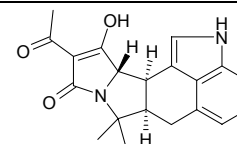
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Over 480 References listed at The Comparative Toxicogenomics Database: <http://ctd.mdibl.org/>

Cyclopiazonic Acid

LS-1020

CAS: 18172-33-3, C₂₀H₂₀N₂O₃, 336,39 g/mole



From *Penicillium cyclopium*; Reversible inhibitor of endoplasmic reticulum Ca ATPase.

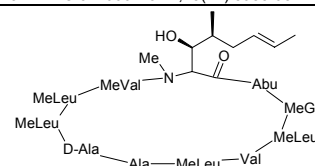
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Cyclosporin A

LS-1021

CAS: 59865-13-3, C₆₂H₁₁₁N₁₁O₁₂, 1202 g/mole

A cyclic undecapeptide from an extract of soil fungi. It is a powerful immunosuppressant with a specific action on T-lymphocytes. It is used for the prophylaxis of graft rejection in organ and tissue transplantation.



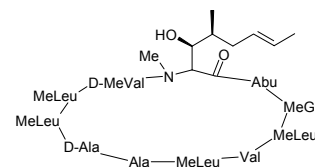
Cyclosporin H

5-(N-methyl-D-valine)cyclosporine A

LS-1073

CAS: 83602-39-5, C₆₂H₁₁₁N₁₁O₁₂, 1202 g/mole

HIV-1 envelope gp41 peptides promote migration of human Fc epsilon RI+ cells and inhibit IL-13 synthesis through interaction with formyl peptide receptors. *J Immunol*. 2002 Oct 15;169(8):4559-67. de Paulis A, Florio G, Prevete N, Triggiani M, Fiorentino I, Genovese A, Marone G.

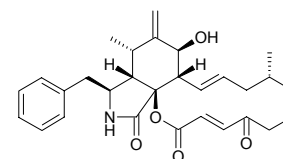


Cytochalasin A

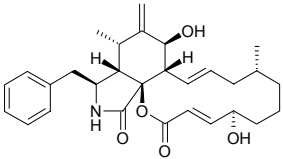
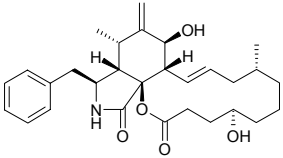
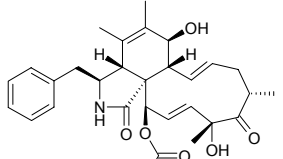
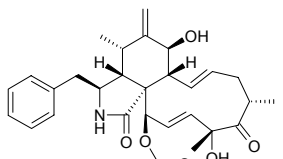
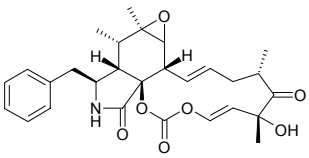
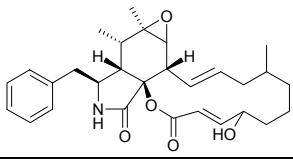
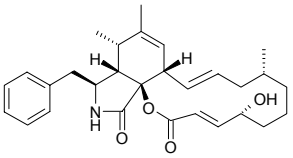
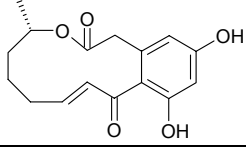
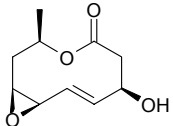
LS-1022

CAS: 14110-64-6, C₂₉H₃₅NO₅, 477,61 g/mole

Cytochalasin A is a fungal toxin which inhibits glucose transport, actine polymerisation and blocks the formation of microtubuli. Inhibits cell division. Cytochalasins are used as tools in cytological research, and in the field of actin polymerisation. Inhibits HIV-1 protease.





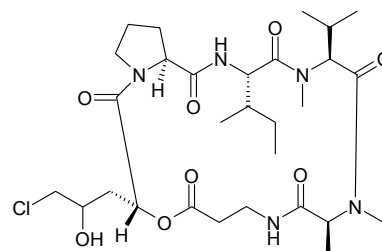
LS-1023	Cytochalasin B CAS: 14930-96-2, C ₂₉ H ₃₇ NO ₅ , 479,62 g/mole Inhibits cell division by interfering with the formation of contractile microfilaments. Inhibits cell movement and induces nuclear extrusion. Interferes with actin polymerization. Inhibits glucose transport. Cytochalasins are used as tools in cytological research, and in the field of actin polymerisation.	
LS-1076	Dihydrocytochalasin B CAS: 39156-67-7 C ₂₉ H ₃₉ NO ₅ , 481,62 g/mole	
LS-1024	Cytochalasin C CAS: 22144-76-9, C ₃₀ H ₃₇ NO ₆ , 507,63 g/mole A fungal metabolite that acts as a potent inhibitor of actin filament and contractile microfilaments. Cytochalasins are used as tools in cytological research, and in the field of actin polymerisation.	
LS-1025	Cytochalasin D CAS: 22144-77-0, C ₃₀ H ₃₇ NO ₆ , 507,63 g/mole Cytochalasin D is a cell permeable fungal toxin, which both the association and dissociation of actin subunits. Cytochalasin D disruptions actin filaments and inhibits actin polymerization. Cytochalasin D is 10 times more effective than cytochalasin B and does not inhibit glucose transport across cell membranes. Cytochalasins are used as tools in cytological research, and in the field of actin polymerisation.	
LS-1026	Cytochalasin E CAS: 36011-19-5, C ₂₈ H ₃₃ NO ₇ , 495,58 g/mole Cytochalasin E is an inhibitor of actin polymerization in blood platelets. Inhibits angiogenesis and tumor growth. Unlike cytochalasins A and B, it does not inhibit glucose transport.	
LS-1115	Cytochalasin F C ₂₉ H ₃₇ NO ₅ , 479,62 g/mole	
LS-1116	Cytochalasin T C ₂₉ H ₃₇ NO ₄ , 463,61 g/mole	
LS-1091	α,β-Dehydrocurvularin 4,5,6,7-Tetrahydro-11,13-dihydroxy-4-methyl-2H-3-benzoxacyclododecin-2,10-(1H)-dione CAS: 21178-56-4, C ₁₆ H ₁₈ O ₅ , 290,32 g/mole	
LS-1117	Decarestrictine A1, SM-140-A1 CAS: 127393-90-2, C ₁₀ H ₁₄ O ₄ , 198,22 g/mole	



LS-1118

Destruxin CHL
Destruxin chlorhydrin, SB-242543

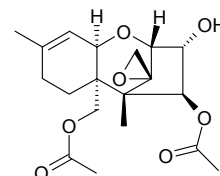
CAS: 121723-07-7, C₂₉H₄₈ClN₅O₈, 630,17 g/mole



LS-1088

Diacetoxyscirpenol, Anguidine, NSC 141537

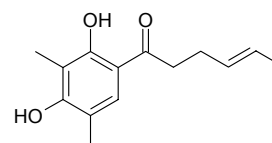
CAS: 2270-40-8, C₁₉H₂₆O₇, 366,41 g/mole



LS-1120

Dihydrosorbicillin

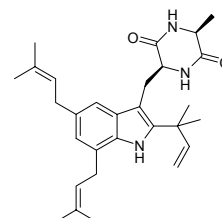
CAS : 79950-82-6, C₁₄H₁₈O₃, 234,29 g/mole



LS-1121

Echinulin

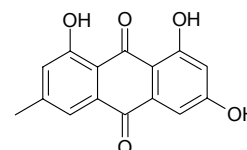
CAS : 1859-87-6, C₂₉H₃₉N₃O₂, 461,64 g/mole



LS-1122

Emodin, Aloe Emodin, Frangula Emodin, Rheum Emodin
1,3,8-trihydroxy-6-methyl-9,10-Anthracenedione

CAS: 578- 82-1, C₁₅H₁₀O₅, 270,24 g/mole

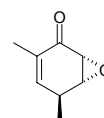


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LS-1125

Epiepoformin

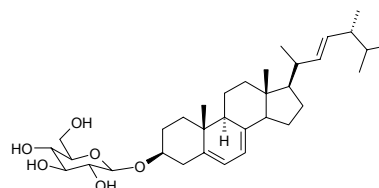
CAS: 67772-77-4, C₇H₈O₃, 140,14 g/mole



LS-1127

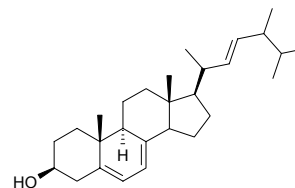
Ergosteryl-3-O-beta-D-glucopyranoside

C₃₄H₅₄O₆, 558,79 g/mole





LS-1128

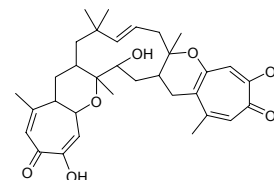
Ergosterol(3 β ,22E)-Ergosta-5,7,22-trien-3-olCAS: 57-87-4, C₂₈H₄₄O, 396,66 g/mole

1. Dixon KM, Deo SS, Wong G, Slater M, Norman AW, Bishop JE, Posner GH, Ishizuka S, Halliday GM, Reeve VE, Mason RS. Skin cancer prevention: A possible role of 1,25dihydroxyvitamin D3 and its analogs. *J Steroid Biochem Mol Biol.* 2005 Jul 19.
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LS-1129

Eupenifeldin

CAS: 151803-45-1

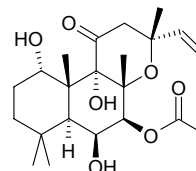


Eupenifeldin was isolated from cultures of *Eupenicillium brefeldianum* ATCC 74184 by extraction and crystallization. It is cytotoxic against the HCT-116 cell line and has in vivo antitumor activity in the P388 leukemia model. The compound was identified as a pentacyclic bistropolone on the basis of spectral data and its complete structure was established by single-crystal X-ray analysis. *J. Antibiotics* 46:1082 (1993); Mayerl F, Gao Q, Huang S, Klohr SE, Matson JA, Gustavson DR, Pirnik DM, Berry RL, Fairchild C, Rose WC. *J Antibiot (Tokyo).* 1993 Jul;46(7):1082-8.

LS-1027

Forskolin, Colforsin, ColeonolCAS: 66575-29-9, C₂₂H₃₄O₇, 410,51 g/mole

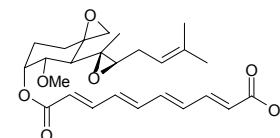
A vasodilator, hypotensive agent. Activates Adenylate Cyclase, thus increasing the cyclic AMP intra-cellular concentration.



LS-1028

Fumagillin(3R-(3 α ,4 α -(2R*,3R*),5 β ,6 β -(all-E-))-2,4,6,8-Decatetraenedioic acid mono(5-methoxy-4-(2-methyl-3-(3-methyl-2-butenyl)oxiranyl)-1-oxaspiro(2.5)oct-6-yl) esterCAS: 23110-15-8, C₂₆H₃₄O₇, 458,6 g/mole

Antiamoebic. Inhibitor of angiogenesis. An effective treatment for intestinal microsporidiosis caused by *Enterocytozoon bieneusi*. Used to treat the Nosema disease in honey bees. Applied topically to the conjunctiva in the treatment of microsporidial keratoconjunctivitis. Once used to treat malaria.



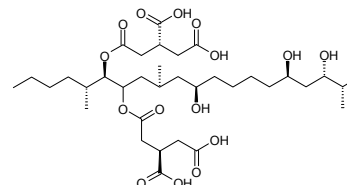
LS-1029

Fumonisin B1, Macrofusine

1,2,3-Propanetricarboxylic acid, 1,1'-[1-(12-amino-4,9,11-trihydroxy-2-methyl-tridecyl)-2-(1-methylpentyl)-1,2-ethane-diyl]ester

CAS: 116355-83-0, C₃₄H₅₉NO₁₅, 721,85 g/mole

From *Fusarium moniliforme*; A carcinogenic mycotoxin. An inhibitor of sphingosine biosynthesis. Causes Leukoencephalomalacia in horses. Inhibits sphingolipids biosynthesis.



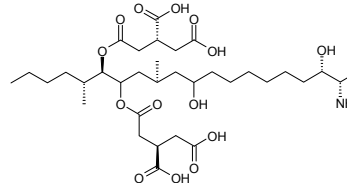
LS-1030

Fumonisin B2

1,2,3-Propanetricarboxylic acid, 1,1'-[1-(12-amino-4,11-dihydroxy-2-methyl-tridecyl)-2-(1-methylpentyl)-1,2-ethane-diyl]ester

CAS: 116355-84-1, C₃₄H₅₉NO₁₄, 705,85 g/mole

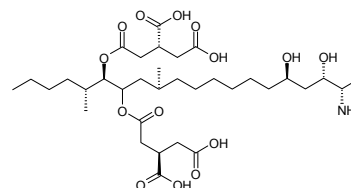
Structural analog of Fumonisin B1. Fumonisin B2 is more cytotoxic than Fumonisin B1. Fumonisin B2 inhibits sphingosine acyl-transferase.



Fumonisin B3
 1,2,3-Propanetricarboxylic acid, 1,1'-[1-(12-amino-9,11-dihydroxy-2-methyl-tridecyl)-2-(1-methylpentyl)-1,2-ethane-diyl]ester

LS-1074

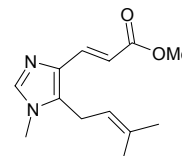
CAS: 116355-84-1, C₃₄H₅₉NO₁₄, 705,85 g/mole
 From *Fusarium moniliforme*



Fungerin

LS-1131

CAS: 185681-81-6, C₁₃H₁₈N₂O₂, 234,29 g/mole

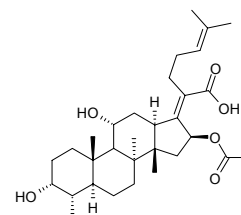


Fusidic Acid
 (3α,4α,8α,9β,11α,13α,14β,16β,17Z)-16-(acetyloxy)-3,11-dihydroxy-29-Nordammara-17(20),24-dien-21-oic acid

LS-1133

CAS: 6990-06-3, C₃₁H₄₈O₆, 516,72 g/mole

An antibiotic isolated from the fermentation broth of *Fusidium coccineum*. (From Merck Index, 11th ed) It acts by inhibiting translocation during protein synthesis.

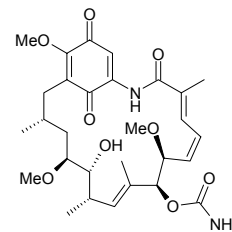


Geldanamycin

LS-1031

CAS: 30562-34-6, C₂₉H₄₀N₂O₉, 560,65 g/mole

From *Streptomyces hygroscopicus*; A potent antitumor agent. Inhibits oncogenic protein kinases and tyrosine kinase. A potent inhibitor of the nuclear hormone receptor family. Benzoquinone ansamycin antibiotic which binds to Hsp90 (Heat Shock Protein 90) and alters its function.

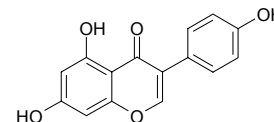


Genistein
 4',5,7-Trihydroxyisoflavone

LS-1032

CAS: 446-72-0, C₁₅H₁₀O₅, 270,24 g/mole

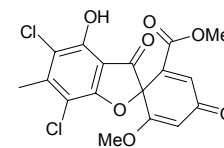
From *Glycine max* (Soybean); Inhibitor of tyrosine protein kinase, competitive inhibitor of ATP in other protein kinase reactions. An isoflavone with anticancer, antiproliferation, and chemopreventive effects. It induces cell differentiation. Inhibits protein histidine kinase.



Geodin, Estin
 (+)-Spiro[benzofuran-2(3H),1'-[2,5]cyclohexadiene]-2'-carboxylic acid, 5,7-dichloro-4-hydroxy-6'-methoxy-6-methyl-3,4'-dioxo-, methyl ester

LS-1134

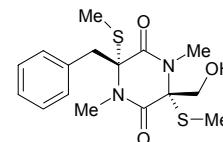
CAS: 427-63-4; C₁₇H₁₂Cl₂O₇, 399,19 g/mole
 Kiriya, Noriki; Nitta, Keiichi; Sakaguchi, Yoshiaki; Taguchi, Yasuhisa; Yamamoto, Yuzuru (Fac. Pharm. Sci., Kanazawa Univ., Kanazawa, Japan). Chem. Pharm. Bull., 25(10), 2593-601 (English) 1977.



Gliovictin

LS-1135

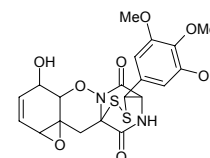
CAS: 52080-06-5, C₁₆H₂₂N₂O₃S₂, 354,49 g/mole



Gliovirin
 (1aS-(1aα,4β,4β,8α,9β,11α,12aR*)))-4,4a,8,9-tetrahydro-4-hydroxy-9-(2-hydroxy-3,4-dimethoxyphenyl)-12H-8,11-(iminomethano)-1aH,7H-(1,2,4)dithiazepino(4,3-b)oxireno(e)(1,2)benzoxazine-7,13-dione

LS-1136

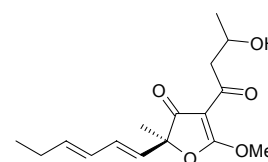
CAS: 83912-90-7, C₂₀H₂₀O₈S₂, 480,52 g/mole



Gregatin C

LS-1137

CAS: 58845-81-1, C₁₆H₂₂O₅, 294,34 g/mole



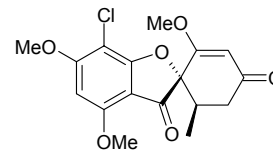


Griseofulvin

LS-1138

7-Chloro-2',4,6-trimethoxy-6'-methyl-, (1'S-trans)-Spiro(benzofuran-2(3H),1'-(2)cyclohexene)-3,4'-dione

CAS: 126-07-8, C₁₇H₁₇ClO₆, 352,77 g/mole



An antifungal antibiotic. Griseofulvin may be given by mouth in the treatment of tinea infections.

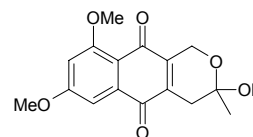
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5. Nagao Y, French BA, Cai Y, French SW, Wan YJ. Inhibition of PPAR alpha/RXR alpha-mediated direct hyperplasia pathways during griseofulvin-induced hepatocarcinogenesis. *J Cell Biochem*. 1998 May 1;69(2):189-200.
6. Isaenko OA, Romashkina TB, Shvartsman Pla, Shelomova LF. Analysis of the mutagenic and teratogenic effect of griseofulvin in the mutagen-sensitive *Drosophila melanogaster* line mus(2)201G1. *Genetika*. 1994 Jun;30(6):796-800.

Herbarin, Dehydroherbarin

LS-1139

CAS: 36375-67-6, C₁₆H₁₆O₆, 304,30 g/mole

J. Antibiotics 24:245 (1971)

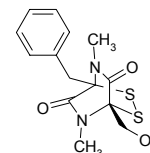


Hyalodendrin, A 26771 A

LS-1141

1-(hydroxymethyl)-5,7-dimethyl-4-(phenylmethyl)-2,3-dithia-5,7-diazabicyclo(2.2.2)octane-6,8-dione; (-)-isomer of hyalodendrin; 2-benzyl-1,4-dimethyl-5-hydroxymethyl-2,5-epi-dithia-3,6-diketopiperazine

CAS: 51920-94-6, C₁₄H₁₆N₂O₃S₂, 324,42 g/mole

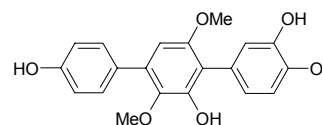


3-Hydroxyterphenyllin

LS-1090

3',6'-dimethoxy-(1,1':4',1''-terphenyl)-2',3,4,4''-tetrol

CAS: 66163-76-6, C₂₀H₁₈O₆, 354,36 g/mole

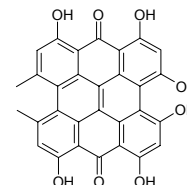


Hypericin, Cyclo-Werrol

LS-1033

CAS: 548-04-9, C₃₀H₁₆O₈, 504,43 g/mole

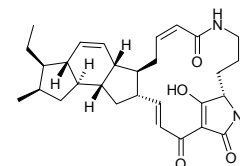
From *Hypericum perforatum*; Anti retroviral agent. An anti-retroviral agent. A protein kinase-C inhibitor. Antidepressant. Apoptosis inducer.



Ikarugamycin, Tu-6239 C3

LS-1194

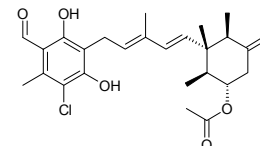
CAS: 36531-78-9, C₂₉H₃₈N₂O₄, 478,62 g/mole



Ilicicolin F, LL-Z 1272z

LS-1142

CAS: 22738-98-3, C₂₅H₃₁ClO₆, 462,96 g/mole

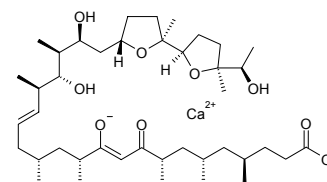


Ionomycin Calcium salt

LS-1077

CAS: 56092-82-1, C₄₁H₇₀O₉Ca, 747,07 g/mole

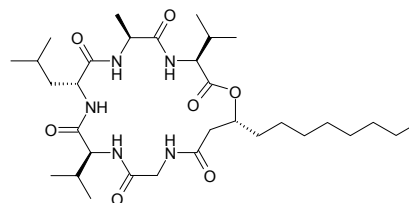
From *Streptomyces conglobatus*; Ionomycin is more effective than A23187 as a Ca⁺⁺ ionophore. Ionomycin is used in research on Ca⁺⁺ transport across biological membranes; Ionomycin induces apoptotic degeneration of embryonic cortical neurons.





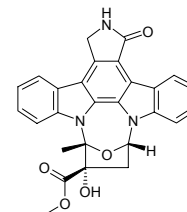
Isariin
Isariin B, Isariin C, Isariin D, Isarolide
 LS-1143 (R)- N-(N-(N-(N-(N-(3-hydroxy-1-oxododecyl)glycyl)-L-valyl)-D-leucyl)-L-alanyl)-rho-lactone L-Valine

CAS: 10409-85-5, C₃₂H₅₇ON₅O₇, 623,84 g/mole



K-252a
 LS-1034 CAS: 97161-97-2, C₂₇H₂₁N₃O₅, 467,49 g/mole

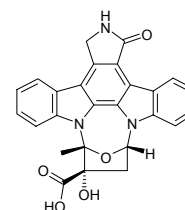
From Nocardiosis sp. Cell permeable protein kinase inhibitor. Potent inhibitor of protein kinase A, protein kinase C and protein kinase G.



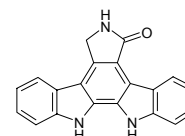
1. Raychaudhuri SP, Sanyal M, Weltman H, Kundu-Raychaudhuri S. K252a, a high-affinity nerve growth factor receptor blocker, improves psoriasis: an in vivo study using the severe combined immunodeficient mouse-human skin model. *J Invest Dermatol.* 2004 Mar;122(3):812-9.
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K-252b
 LS-1035 CAS: 99570-78-2, C₂₆H₁₉N₃O₅, 453,46 g/mole

Prepared by chemical modification of K252a. Inhibitor of protein kinase A, protein kinase C and protein kinase G.

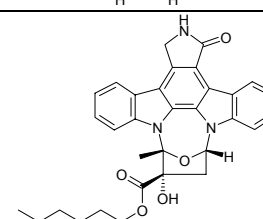


K-252c
 LS-1085 C₂₀H₁₃N₃O, 311,34 g/mole



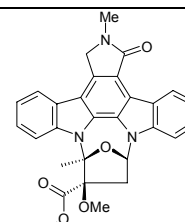
KT5720
 LS-1036 CAS: 108068-98-0, C₃₂H₃₁N₃O₅, 537,62 g/mole

Prepared by chemical modification of K252a. Potent specific inhibitor of protein kinase A. A selective inhibitor of cAMP-dependent protein kinase (PKA)



KT5823
 LS-1037 CAS: 126643-37-6, C₂₉H₂₅N₃O₅, 495,54 g/mole

An immunosuppressive agent. A selective inhibitor protein kinase G.



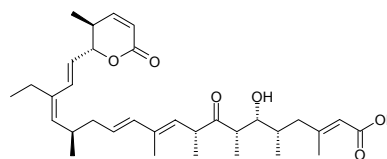
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Leptomycin B, CI-940, Elactocin, PD 114720, ATS 1287B, Mantuamycin

LS-1086

19-(3,6-dihydro-3-methyl-6-oxo-2H-pyran-2-yl)-17-ethyl-6-hydroxy-3,5,7,9,11,15-hexamethyl-8-oxo-2,10,12,16,18-Nonadecapentaenoic acid
CAS: 87081-35-4, C₃₃H₄₈O₆, 540,75 g/mole



Leptomycin B is an important tool in the study of nuclear export. Leptomycin B is twice as potent as Leptomycin A.

Leptomycin B (LPB) was originally discovered as a potent anti-fungal antibiotic from *Streptomyces* sp. However, recent data (2003) showed that Leptomycin causes G1 cell cycle arrest in mammalian cells and is a potent anti-tumor agent against murine experimental tumors.

Leptomycin B is a potent and specific nuclear export inhibitor. Leptomycin B alkylates and inhibits CRM1 (chromosomal region maintenance)/exportin 1, a protein required for nuclear export of proteins containing a nuclear export sequence (NES). In addition to antifungal and antibacterial activities, Leptomycin B blocks the cell cycle and is a potent anti-tumor agent. At low nM concentrations, Leptomycin B blocks the nuclear export of many proteins including HIV-1 Rev, MAPK/ERK, and NF-κB/IκB, and it stabilizes the expression of p53. Leptomycin B also inhibits the export and translation of many RNAs, including COX-2 and c-Fos mRNAs, by inhibiting export of ribonucleoproteins.

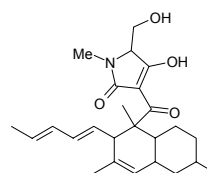
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Over 92 References listed at The Comparative Toxicogenomics Database: <http://ctd.mdibl.org/>

LL-49F233a

LS-1147

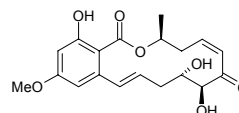
C₂₅H₃₅NO₄, 413,55 g/mole



LL-Z-1640-2

LS-1148

CAS: 66018-38-0, C₁₉H₂₂O₇, 362,37 g/mole

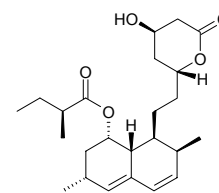


Lovastatin, Mevinolin

LS-1038

CAS: 75330-75-5, C₂₄H₃₆O₅, 404,55 g/mole

A fungal metabolite isolated from cultures of *Aspergillus terreus*. The compound is a potent anticholesteremic agent. It inhibits 3-hydroxy-3-methylglutaryl coenzyme A reductase (HYDROXYMETHYLGUTARYL COA REDUCTASES), which is the rate-limiting enzyme in cholesterol biosynthesis. It also stimulates the production of low-density lipoprotein receptors in the liver.

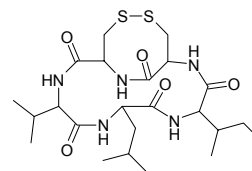


Malformin A, Malformins, (5-L-Leu)-isomer

LS-1149

cyclic(D-cysteinyl-d-cysteinyl-L-valyl- D-leucyl-L-isoleucyl)cyclic(1-2)-disulfide
cyclic(Cys-Cys-Val-L-Leu-Ile)cyclic(1-2)-disulfide

CAS: 3022-92-2, C₂₃H₃₉N₅O₅S₂, 529,73 g/mole



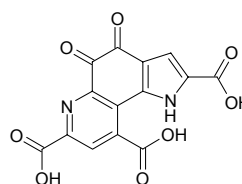
Methoxatin, PQQ Cofactor

LS-1087

4,5-Dihydro-4,5-dioxo-1H-pyrrolo[2,3-f]quinoline-2,7,9-tricarboxylic acid

CAS: 72909-34-3, C₁₄H₆N₂O₈, 330,21 g/mole

A pyrrolo-quinoline having two adjacent keto-groups at the 4 and 5 positions and three acidic carboxyl groups. It is a coenzyme of some DEHYDROGENASES.



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MDM2-48 Ring Finger Domain

The 48 amino acid long peptide represents the RING Finger Domain of Mdm2. This sequence motif is shared among a significant number of proteins and is believed to play a role in mediating protein- protein interactions. The RING Finger Domain is a special type of Zn-finger of 40 to 60 residues that binds two atoms of zinc.

MDM2 is an ubiquitin protein ligase (Ubiquitin-protein ligase E3 Mdm2) for p53, its activity is dependent on its RING Finger Mdm2 has been shown to regulate the tumor suppressor protein p53 (Please see literature). The 48 amino acid-residues containing *MDM2* peptide is ideal for studying its interaction with small anticancer drug candidates.

MDM2-48 Ring Finger Domain

Sequence: Ile-Glu-Pro-Cys-Val-Ile-Cys-Gln-Gly-Arg-Pro-Lys-Asn-Gly-Cys-Ile-Val-His-Gly-Lys-Thr-Gly-His-Leu-Met-Ala-Cys-Phe-Thr-Cys-Ala-Lys-Lys-Leu-Lys-Lys-Arg-Asn-Lys-Pro-Cys-Pro-Val-Cys-Arg-Gln-Pro-Ile
Average Mass = 5306.57, Monoisotopic Mass = 5302.74

PRO1015

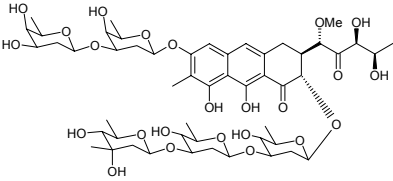
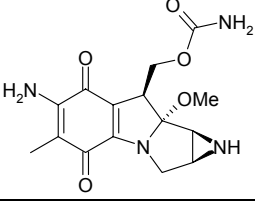
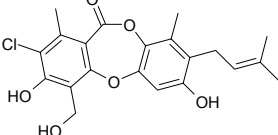
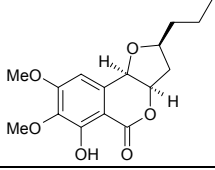
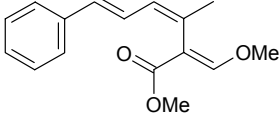
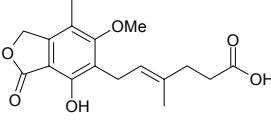
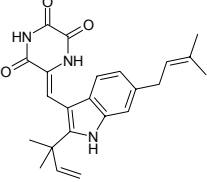
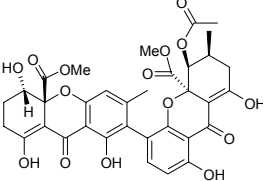
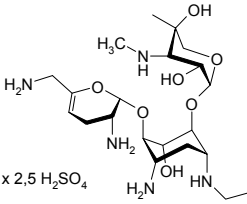
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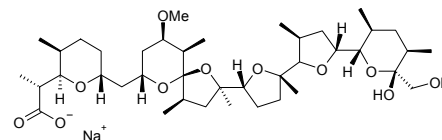
LS-1040	Mithramycin Aureolic acid, Plicamycin	
	CAS: 18378-89-7, C ₅₂ H ₇₆ O ₂₄ , 1085,17 g/mole	
	From <i>Streptomyces argillaceus</i> ; A RNA synthesis inhibitor. DNA binding fluorescent dye. Used as an antineoplastic agent.	
LS-1041	Mitomycin C, Mutamycin, Ametycin, Mitocin-C	
LS-1041a	Mitomycin C / NaCl A 4% mixture of Mitomycin C (2mg) and NaCl (48mg) per vial.	
	CAS: 50-07-7, C ₁₅ H ₁₈ N ₄ O ₅ , 334,33 g/mole	
	From <i>Streptomyces caespitosus</i> ; Antibiotic and carcinostatic agent. Anti-tumor antibiotic that binds covalently to DNA. Antibacterial	
LS-1151	Mollicellin D	
	CAS: 68455-11-8, C ₂₁ H ₂₁ ClO ₆ , 404,84 g/mole	
LS-1153	Monocerin	
	CAS: 30270-60-1, C ₁₆ H ₂₀ O ₆ , 308,33 g/mole	
LS-1154	Mucidin, Mucidermin, Strobilurin A (E,E,E)-2-(methoxymethylene)-3-methyl-6-phenyl-3,5-Hexadienoic acid methyl ester	
	CAS: 52110-55-1, C ₁₆ H ₁₈ O ₃ , 258,32 g/mole	
LS-1042	Mycophenolic acid	
	CAS: 24280-93-1, C ₁₇ H ₂₀ O ₆ , 320,35 g/mole	
	From <i>Penicillium brevicompactum</i> . An immunosuppressor. Purine nucleotide synthesis inhibitor.	
LS-1155	Neoechinulin	
	CAS: 25644-25-1, C ₂₃ H ₂₅ N ₃ O ₃ , 391,47 g/mole	
LS-1156	Neosartorin	
	CAS: 212709-11-0, C ₃₄ H ₃₂ O ₁₆ , 680,61 g/mole	
LS-1043	Netilmycin Sulphate O-3-Deoxy-4-C-methyl-3-methylamino-β-L-arabinopyranosyl-(1→6)-O-[2, 6-diamino-4,5-dehydro-2,3,4,6-tetrahydroxy-α-D-glycero-hexopyranosyl-(1→4)]-2-deoxy-1-N-ethyl-D-streptamine hemiheptasulfate	
	CAS: 56391-57-2 C ₂₁ H ₄₁ N ₅ O ₇ *2,5H ₂ SO ₄ , 720,78 g/mole	

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LS-1044 **Nigericin Na salt, Polyetherin A,
Azalomycin M, Helixin C,
Antibiotic K178, Antibiotic X-464**

CAS: 28380-24-7, C₄₀H₆₇O₁₁Na, 746,97 g/mole

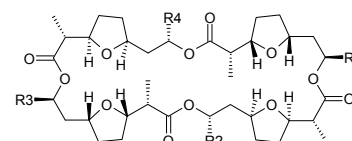
From *Streptomyces hygroscopicus*. Polyether ionophore A polyether antibiotic and ionophore. Originally used as an antibiotic. Active against gram positive bacteria. Inhibitor of Golgi functions. Exhibits anti-HIV activity.



LS-1078 **Nonactin, Amonium Ionophore,
Werramycin A, Polynactin**

CAS: 6833-84-7, C₄₀H₆₄O₁₂, 736,93 g/mole

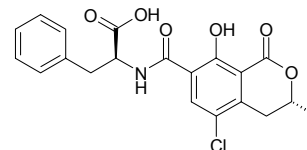
Nonactin from *Streptomyces Griseus*: a mixture of the two homolog macrotetrolide antibiotics: Nonactin, Monactin. The Nonactin is about 80%, ballanced by Monactin only. The mixture does not contain Dinactin, Trinactin, Tetranactin. Nonactin has an inhibitory effects on the P170 glycoprotein-mediated efflux of chemotherapeutic agents in multiple-drug-resistant cancer cells. Nonactin, a natural mixture of macrotetrolides, was used in agriculture under the name trade POLYNACTIN. Nonactin has been reported to specifically inhibit the processing of cytoplasmic precursor proteins destined for the mitochondria. Nonactin is used in urea specific electrodes.



Nonactin: R1=R2=R3=R4 = Me
Monactin: R1 = Et; R2=R3=R4 = Me
Dinactin: R1=R3 = Et; R2=R4 = Me
Trinactin: R1=R2=R3 = Et ; R4 = Me
Tetranactin: R1=R2=R3=R4 = Et

LS-1045 **Ochratoxin A**

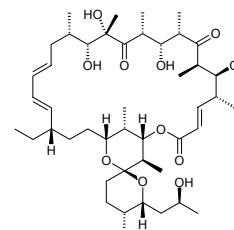
CAS: 303-47-9, C₂₀H₁₈ClNO₆, 403,8 g/mole
From *Aspergillus ochraceus*; Mycotoxin



LS-1046 **Oligomycin**

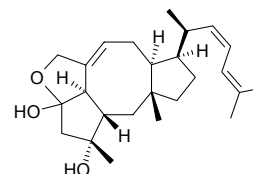
CAS: 1404-19-9, C₄₅H₇₄O₁₁, 791,08 g/mole

From *Streptomyces diastatochromogenes*; A mixture of Oligomycins A, B and C; Macrolide antibiotic. Inhibits mitochondrial ATPase. Used as a tool in cytochemistry



LS-1158 **Ophiobolin H**

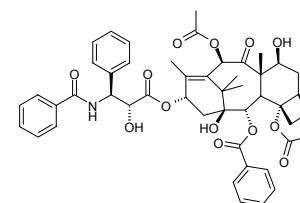
CAS: 90108-64-8, C₂₅H₃₈O₃, 386,57 g/mole



LS-1047 **Paclitaxel**

CAS: 33069-62-4, C₄₇H₅₁NO₁₄, 853,93 g/mole

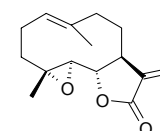
From *Taxus brevifolia*; Antitumor and antileukemic agent. An antineoplastic agent from a plant extract. Paclitaxel stabilizes microtubules in their polymerized form thus leading to cell death.



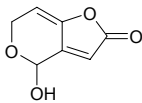
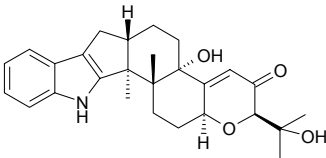
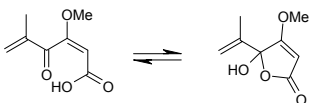
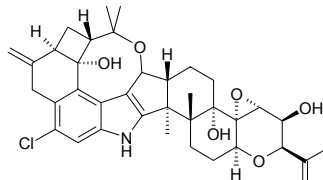
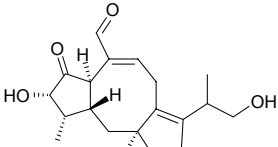
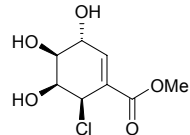
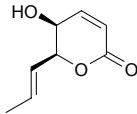
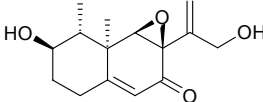
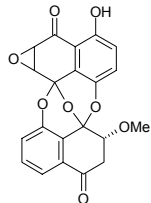
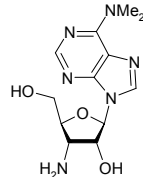
LS-1048 **Parthenolide**

CAS: 20554-84-1, C₁₅H₂₀O₃, 248,32 g/mole

From Feverfew leaves (*Tanacetum parthenium*); Inhibits activation of MAP kinase. Sesquiterpene lactone and active principle of feverfew (*Chrysanthemum parthenium*). Parthenolide has anti-inflammatory, antisecretory and spasmolytic activity. It inhibits the release of various mediators. It inhibits activation of MAP kinase.



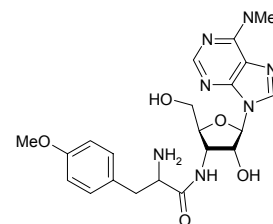


LS-1049	Patulin CAS: 149-29-1, C ₇ H ₆ O ₄ , 154,12 g/mole	
From <i>Penicillium expansum</i> ; Mycotoxin; a cytostatic, antibacterial mycotoxin. Inhibits potassium uptake.		
LS-1050	Paxilline CAS: 57186-25-1; C ₂₇ H ₃₃ NO ₄ , 435,57 g/mole	
From <i>Penicillium paxilli</i> ; Tremorgenic mycotoxin. High conductance Ca activated K (maxi-K) channel blocker.		
LS-1051	Penicillic acid CAS: 90-65-3, C ₈ H ₁₀ O ₄ , 170,17 g/mole	
From <i>Penicillium cyclopium</i> ; Mycotoxin A Mycotoxin that induces DNA single-strand breaks.		
LS-1052	Penitrem A CAS: 12627-35-9, C ₃₇ H ₄₄ ClNO ₆ , 633,22 g/mole	
From <i>Penicillium palitans</i> ; High conductance Ca activated K channel blocker. A tremorgenic indole alkaloid that potently inhibits smooth muscle high-conductance calcium-activated potassium channels		
LS-1161	Periconicin B C ₂₀ H ₂₈ O ₄ , 332,43 g/mole	
LS-1162	Pericosine A CAS: 200335-68-8, C ₈ H ₁₁ ClO ₅ , 222,62 g/mole	
LS-1163	Phomalactone CAS: 28921-94-0, C ₈ H ₁₀ O ₃ , 154,16 g/mole	
LS-1164	Phomenone CAS: 55785-58-5, C ₁₅ H ₂₀ O ₄ , 264,32 g/mole	
LS-1165	Preussomerin I, 3'-O-Demethylpreussomerin I CAS: 158204-29-6 C ₂₁ H ₁₄ O ₈ , 394,34 g/mole	
LS-1054	Puromycin Aminonucleoside 6-Dimethylamin-9-[3'-amino-3'-deoxyribose]-purine CAS: 58-60-6, C ₁₂ H ₁₈ N ₆ O ₃ , 294,32 g/mole	
A puromycin analog which does not inhibit protein synthesis or induce apoptosis.		

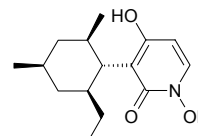
Puromycin dihydrochloride

3'-[[2-Amino-3-(4-methoxyphenyl)-1-oxopropyl]-amino]-3'-deoxy-N,N-dimethyladenosine dihydrochloride

LS-1053

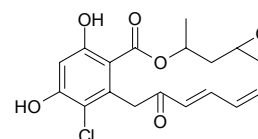
CAS: 58-58-2 and 3506-23-8
C₂₂H₂₉N₇O₅*2HCl, 471,52*72,92 g/moleFrom *Streptomyces alboniger*; a protein synthesis inhibitor.
Causes premature chain termination.**Pyridoxatin, BX-86**

LS-1103

CAS: 149196-98-5, C₁₅H₂₁NO₃, 263,33 g/mole**Radicol****Radisicol, Monorden, Monorodene, KF58332, KF9-A, RHI-12648, FO-4910**

LS-1055

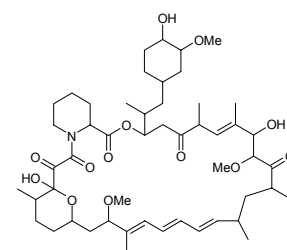
5-Chloro-6-(7,8-epoxy-10-hydroxy-2-oxo-3,5-undecadienyl)-beta-resorcylic acid mu-lactone

CAS: 12772-57-5; C₁₈H₁₇ClO₆, 364.78 g/moleFrom *Humicola fuscoatra*; Antifungal antibiotic. Inhibits Protein Tyrosine Kinase.

- Gougelet A, Bouclier C, Marsaud V, Maillard S, Mueller SO, Korach KS, Renoir JM. Estrogen receptor alpha and beta subtype expression and transactivation capacity are differentially affected by receptor-, hsp90- and immunophilin-ligands in human breast cancer cells. *J Steroid Biochem Mol Biol.* 2005 Feb;94(1-3):71-81.
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Rapamycin, RAPA, Rapamune, Sirolimus, RPM

LS-1056

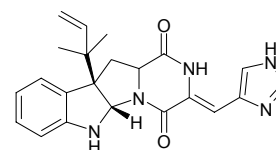
CAS: 53123-88-9, C₅₁H₇₉NO₁₃, 914.2 g/moleA macrolide compound obtained from *Streptomyces hygroscopicus* that acts by selectively blocking the transcriptional activation of cytokines thereby inhibiting cytokine production. It is bioactive only when bound to IMMUNOPHILINS. Sirolimus is a potent immunosuppressant and possesses both antifungal and antineoplastic properties.Over 200 References listed at The Comparative Toxicogenomics Database: <http://ctd.mdibl.org/>

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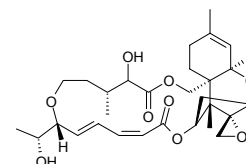
LS-1167

Roquefortine, Isoroquefortine C, Roquefortin, Roquefortine C
10b-(1,1-dimethyl-2-propenyl)-6,10b,11,11a-tetrahydro-3-(1H-imidazol-4-ylmethylene)-2H-pyrazino(1',2':1,5)pyrrolo(2,3-b)indole-1,4(3H,5aH)-dione

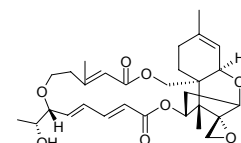
CAS: 58735-64 -1, C₂₂H₂₃N₅O₂, 389,46 g/mole

Oxidative metabolism by P450 and function coupling to efflux systems: modulation of mycotoxin toxicity. Food Addit Contam. 2005 Apr;22(4):361-8. Aninat C, Andre F, Delaforge M.

LS-1168

Roridin A, Roridin CCAS: 14729-29-4, C₂₉H₄₀O₉, 532,64 g/mole

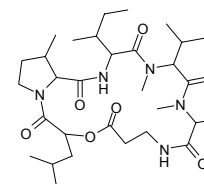
LS-1169

Roridin ECAS: 16891-85-3, C₂₉H₃₈O₈, 514,62 g/mole

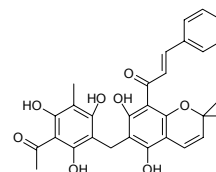
LS-1170

Roseotoxin

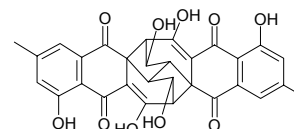
Cyclo[2-Hydroxy-4-methyl-pentanoic acid-3-methyl-prolin-Isoleucine-N-methyl-Valine-N-methyl-Alanine-beta-Alanine]

CAS: 55466-29-0, C₃₁H₅₄ N₅O₇, 608,4 g/mole
A toxic cyclodepsipeptide from *Trichothecium roseum*.

LS-1071

Rottlerin, MallotoxinCAS: 82-08-6, C₃₀H₂₈O₈, 516,54 g/mole

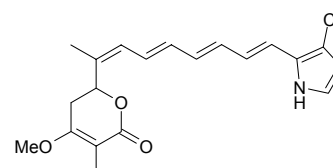
LS-1171

**Rugulosin, (+)-Rugulosin
(1S,1'S,2R,2'R,3S,3'S,9aR,9'aR)-Rugulosin
(2R,2'R)-Rugulosin**CAS: 23537-16-8, C₃₀H₂₂O₁₀, 542,5 g/mole

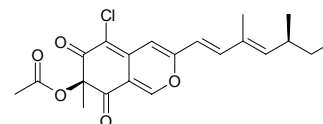
LS-1172

Rumbrin

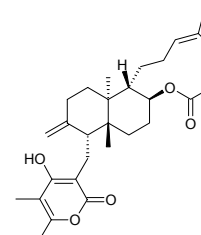
(Z,E,E,E)-8-(8-(3-chloro-1H-pyrrol-2-yl)-1-methyl-1,3,5,7-octatetraenyl)-4-methoxy-3-methyl-2H-pyran-2-one

CAS: 150206-14-7, C₂₀H₂₂ClNO₃, 359,86 g/mole

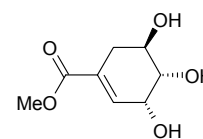
LS-1173

Sclerotiorin, (S-(R*,R*-(E,E)))-SclerotiorinCAS: 549-23-5, C₂₁H₂₃ClO₅, 390,87 g/mole

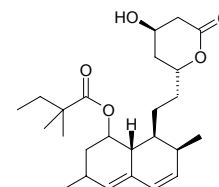
LS-1174

SesquicillinCAS : 51103-58-3, C₂₉H₄₂O₅, 470,64 g/mole

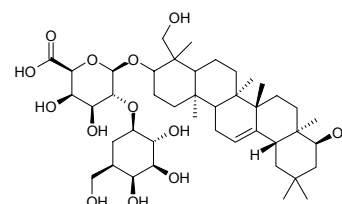
LS-1150 **Shikimic acid methyl ester**
(3R-(3alpha,4alpha,5beta))-3,4,5-trihydroxy-1-Cyclohexene-1-carboxylic acid methyl ester
C₈H₁₂O₅, 188,18 g/mole



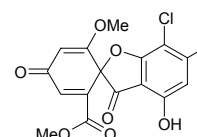
LS-1057 **Simvastatin**
2,2-Dimethylbutanoic acid 1,2,3,7,8,8a-hexahydro-3,7-dimethyl-8-[2-tetrahydro-4-hydroxy-2-oxo-2H-pyridin-yl]-1-naphthalenyl ester
CAS: 79902-63-9
C₂₅H₃₈O₅, 418,57 g/mole



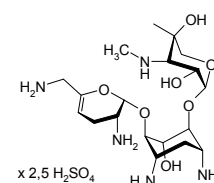
LS-1175 **Soyasaponin III**
CAS: 55304-02-4
C₄₃H₇₀O₁₃, 795,03 g/mole



LS-1177 **SS-195088**
CAS: 102580-39-2, C₁₇H₁₃ClO₇, 364,73 g/mole

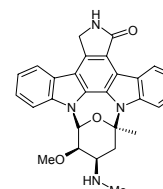


LS-1059 **Sisomicin Sulfate**
O-3-Deoxy-4-C-methyl-3-methylamino-β-L-arabinopyranosyl-(1→6)-O-[2, 6-diamino-4,5-dehydro-2,3,4,6-tetra-deoxy-α-D-glycero-hexopyranosyl-(1→4)]-2-deoxy-D-streptamine hemiheptasulfate
CAS: 53179-09-2
C₁₉H₃₇N₅O₇*2,5H₂SO₄, 692,73 g/mole



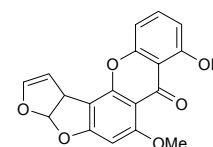
LS-1061 **Staurosporine, Antibiotic AM-2282**
CAS: 62996-74-1, C₂₈H₂₆N₄O₃, 466,54 g/mole

From *Streptomyces staurosporeus*; Potent broad spectrum inhibitor of protein kinases. A cell permeable inhibitor of protein kinases, including protein kinase C.

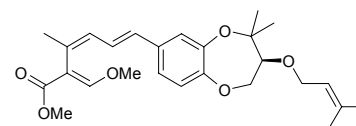


LS-1062 **Sterigmatocystine**
CAS: 10048-13-2, C₁₈H₁₂O₆, 324,29 g/mole

From *Aspergillus Versicolor*; Carcinogenic Mycotoxin, inhibitor of DNA synthesis.

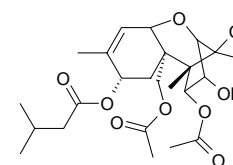


LS-1178 **Strobilurin G**
6-(3,4-dihydro-4,4-dimethyl-3-((3-methyl-2-butenyl)oxy)-2H-1,5-benzodioxepin-7-yl)-2-(methoxymethylene)-3-methyl-, 3,5-Hexadienoic acid methyl ester
CAS: 129145-64-8, C₂₆H₃₄O₆, 442,56 g/mole



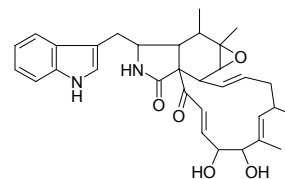
LS-1063 **T2 Toxin, Mycotoxin Trichothecene 2, Fusariotoxin**
(3.alpha.,4.beta.,8.alpha.)-Trichothec-9-ene-3,4,8,15-tetrol,12,13-epoxy-, 4,15-diacetate 8-(3-methylbutanoate)
CAS: 21259-20-1; C₂₄H₃₄O₉, 466,53 g/mole

A trichothecene group mycotoxin. A potent mycotoxin produced in feedstuffs by several species of the genus *FUSARIUM*. It elicits a severe inflammatory reaction in animals and has teratogenic effects.

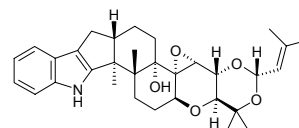




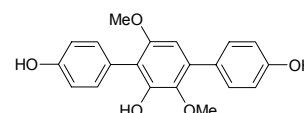
LS-1179

Tan 1142CAS: 147527-33-1, C₃₂H₃₈N₂O₅, 530,66 g/mole

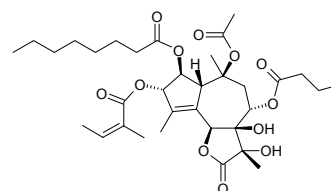
LS-1182

Terpendole C, FO-2546-BCAS: 164323-42-6, C₃₂H₄₁N₂O₅, 519,67 g/mole

LS-1183

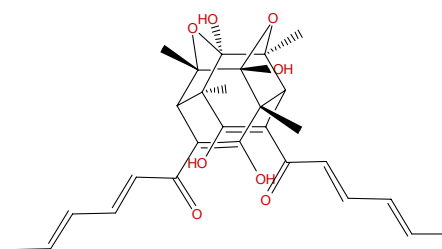
TerphenyllinCAS: 52452-60-5, C₂₀H₁₈O₅, 338,36 g/mole

LS-1064

ThapsigarginCAS: 67526-95-8, C₃₄H₅₀O₁₂, 650,77 g/mole

From *Thapsia garganica* L.; Cell permeable tumor promoting sesquiterpene lactone that releases; Ca⁺⁺ by inhibiting endoplasmic reticular Ca ATPase. A tight-binding inhibitor of intracellular calcium (SERCA) pumps.

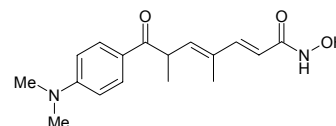
LS-1184

Trichodimerol, BMS-182123CAS: 145174-90-9, C₂₈H₃₂O₈, 496,55 g/mole

LS-1065

Trichostatin ACAS: 58880-19-6; C₁₇H₂₂N₂O₃, 302,38 g/mole

From *Streptomyces platensis*; An antifungal antibiotic. A potent and reversible inhibitor of Histone deacetylase. Blocks cell cycle progressing at G1 phase in Hela cells.

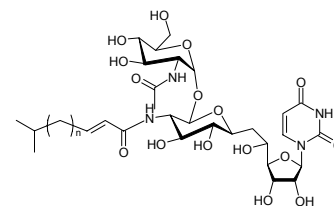


LS-1066

Tunicamycin (n= 8,9,10,11)

CAS: 11089-65-9, 840 g/mole

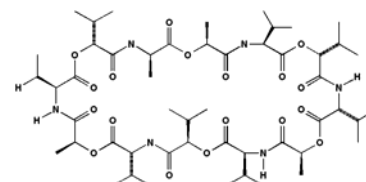
From *Streptomyces* sp.; Inhibits N-linked glycosylation and blocks the formation of N-glycosidic protein - carbohydrate linkage.



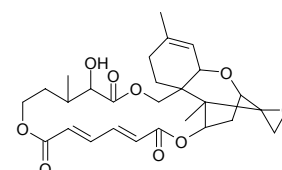
LS-1079

ValinomycinCAS: 2001-95-8, C₅₄H₉₀N₆O₁₈, 1111,4 g/mole

A cyclododecdepsipeptide ionophore antibiotic produced by *Streptomyces fulvissimus* and related to the enniatins. A K⁺ selective ionophore. Used for K⁺ selective electrodes, as insecticide, nematocytide, and as a research tool in biochemical studies. Active in vitro against *Mycobacterium Tuberculosis*. Apoptosis inducer.



LS-1186

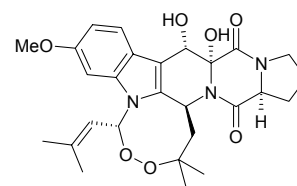
Verrucarin A, Muconomycin A, NSC 126728CAS: 3148-09-2, C₂₇H₃₄O₉, 502,57 g/mole

Verruculogen

LS-1067

CAS: 12771-72-1, C₂₇H₃₃N₃O₇, 511,58 g/mole

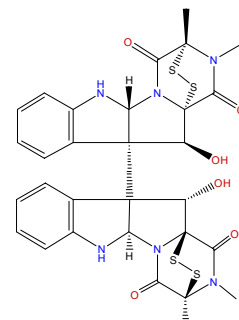
From *Penicillium verruculosum*; Tremorgenic mycotoxin. Potent inhibitor of high conductance Ca activated K (maxi-K) channel.



Verticillin A

LS-1187

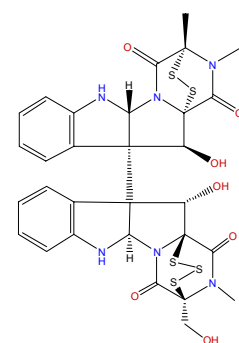
CAS: 12795-76-5
C₃₀H₂₈N₆O₆S₄, 696,84 g/mole



Verticillin C

LS-1188

C₃₀H₂₈N₆O₇S₅, 744,9 g/mole

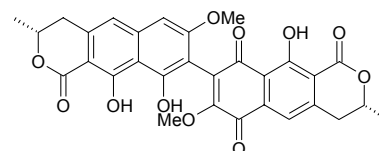


Viomellein

LS-1190

8-(3,4-dihydro-9,10-dihydroxy-7-methoxy-3-methyl-1-oxo-1H-naphtho(2,3-c)pyran-8-yl)-3,4-dihydro-6-hydroxy-9-methoxy-3-methyl-1H-naphtho(1,2-c)pyran-1,7,10-trione

C₃₀H₂₄O₁₁, 560,52 g/mole, CAS: 55625-78-0

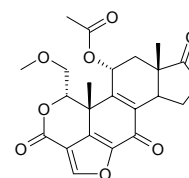


Wortmannin

LS-1068

CAS: 19545-26-7; C₂₃H₂₄O₈, 428,44 g/mole

From *Penicillium fusiculosum*; Potent selective inhibitor of phosphatidylinositol-3-kinase (PI 3-kinase). An antifungal antibiotic, similar to viridin.



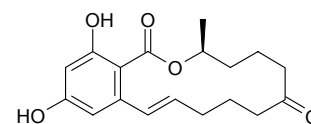
Zearalenone, FES, Compound F-2, Toxin F2

3,4,5,6,9,10-Hexahydro-14,16-dihydroxy-3-methyl-1H-2-benzoxacyclotetradecin-1,7(8H)-dione

LS-1069

CAS: 17924-92-4, C₁₈H₂₂O₅, 318,4 g/mole

From *Fusarium graminearum*; A toxine from resorcylic acid lactone group. The resorcylic acid lactones have estrogenic activity. Used as veterinary anabolic or estrogen substitutes.



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