

## Neurochemicals

### Newsletter 09/2011 - New Products for Neuroscience Research

#### Page 2

- BG0614 Famciclovir - Antiviral agent
- BG0615 Enoxacin - Antibiotic and antitumour agent
- BG0617 Pazufloxacin mesylate - Fluoroquinolone antibacterial agent
- BG0618 Clinafloxacin - Fluoroquinolone antibacterial agent

#### Page 3

- BG0619 Bexarotene - Retinoid X receptor agonist, antitumour agent
- BG0621 Olopatadine hydrochloride - Histamine H<sub>1</sub> antagonist
- BG0622 Quetiapine fumarate - 5-HT and Dopamine D<sub>1</sub>/D<sub>2</sub> antagonist
- BG0623 Dolasetron mesylate - Selective 5-HT<sub>3</sub> antagonist

#### Page 4

- BN0824 DBEq - Potent ATP-competitive inhibitor of p97
- BN0825 U 93631 - GABA<sub>A</sub> antagonist
- BN0826 Enterocin - Potent broad spectrum antibiotic
- BN0827 Heronamide C - Polyene macrocyclic lactam antibiotic

#### Page 5

- BN0828 Tetranactin - A Macrotetrolide antibiotic
- BN0829 Antibiotic UK-1 - Antitumour agent, topoisomerase II inhibitor
- BN0830 (-)-Cotinine - Metabolite of nicotine, improves memory in AD
- BN0831 G-1 - High-affinity, selective agonist of GPR30

#### Page 6

- BN0832 G-15 - High-affinity, selective agonist of GPR30
- BN0833 2-Benzyl-7-benzoyloxyharmone - Cytochrom P450 substrate
- BN0834 2-Benzyl-7-hydroxyharmone - Cytochrom P450 substrate
- BN0835 Tubacin - Potent histone deacetylase HDAC6 inhibitor

#### Page 7

- BN0836 Oroxylin A - A flavonoid isolated from Scutellaria baicalensis
- BN0837 RG 108 - Non-nucleoside DNA methyltransferase inhibitor
- BN0838 Piperlongumine - Antitumour agent, increases ROS and apoptosis
- BP0419 TAT-CBD3 - Prevents CRMP-2-mediated enhancement of Ca<sub>v</sub>2.2 function

#### Page 8

- BP0420 GLP-1 (9-36) amide (human, bovine, gp, mouse, porcine, rat) - Glucagon GLP-1 receptor antagonist
- BP0421 WW61 - Potent fibril formation inhibitor of <sup>248</sup>PAP<sup>286</sup>
- BP0422 D-TLKIVW - Potent fibril formation inhibitor of Tau (τ) protein
- BS0296 Stauprimide - Increases stem cells (ESCs) differentiation

#### Page 9

- BS0297 TBCA - Selective cell-permeable Casein Kinase II (CK-2) inhibitor
- BS0298 Dorsomorphin - Potent, selective AMP kinase (AMPK) inhibitor
- BS0302 Deltamethrin - A potent inhibitor of calcineurin
- BS0304 Roscovitine - Cyclin-dependent kinase (CDK) inhibitor

#### Page 10

- BS0305 Mitochondrial Division Inhibitor (mdivi-1) - Dynamin-related GTPase inhibitor
- BS0306 SU 5416 - Potent VEGFR tyrosine kinase inhibitor
- BS0307 Cerulenin - Antifungal antibiotic, FAS inhibitor
- BS0308 Adaphostin - Tyrosine kinase bcr/abl inhibitor

...distributed by:

ANAWA Trading SA  
Unterdorfstrasse 21  
CH-8602 Wangen  
Tel. +41 44 805 76 81  
Fax. +41 44 805 76 75  
hassler@anawa.ch  
[www.anawa.ch](http://www.anawa.ch)

BIOTREND Chemikalien GmbH  
Im Technologiezentrum Köln  
Eupener Str. 157 • D-50933 Köln  
Tel. +49 221 9498320  
Fax. +49 221 9 49 83 25  
jaeger@biotrend.com  
[www.biotrend.com](http://www.biotrend.com)



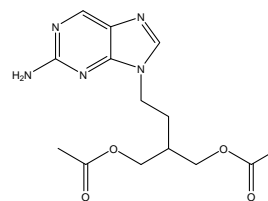
BIOTREND Chemicals AG  
Unterdorfstrasse 21  
CH-8602 Wangen  
Tel. +41 44 805 76 76  
Fax. +41 44 805 76 77  
info@biotrend.ch  
[www.biotrend.ch](http://www.biotrend.ch)

## Famciclovir

Cat. No.	Size	Price
<a href="#">BG0614</a>	<a href="#">100 mg</a>	<a href="#">180 CHF</a>

2-(2-(2-Amino-9H-purin-9-yl)ethyl)-1,3-propanediol diacetate ester; BRL 42810  
M.W. 321.33 C<sub>14</sub>H<sub>19</sub>N<sub>5</sub>O<sub>4</sub> [104227-87-4] Desiccate at +4° C  
Soluble to 100 mM in DMSO or in ethanol

An antiviral agent used to treat herpesvirus infections. It inhibits viral DNA polymerase and thus viral DNA synthesis and replication.



### Reference

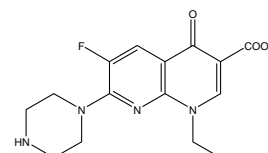
1. Griffiths (2009) *J Clin Virol* 46:3; 2. Partridge and McKendrick (2009) *Expert Opin Pharmacother* 10:797; 3. Mubareka et al. (2010) *Expert Opin Drug Saf* 9:643

## Enoxacin

Cat. No.	Size	Price
<a href="#">BG0615</a>	<a href="#">100 mg</a>	<a href="#">66 CHF</a>

1-Ethyl-6-fluoro-4-oxo-7-(piperazin-1-yl)-1,4-dihydro-1,8-naphthyridine-3-carboxylic acid; Almitil; Bactidan; Bactidron  
M.W. 320.32 C<sub>15</sub>H<sub>17</sub>FN<sub>4</sub>O<sub>3</sub> [74011-58-8] Store at RT  
Soluble to 100 mM in DMSO or in ethanol

An oral broad-spectrum fluoroquinolone antibacterial agent used in the treatment of urinary tract infections and gonorrhea. Also a cancer-specific growth inhibitor that acts by enhancing TAR RNA-binding protein 2-mediated microRNA processing.



### Reference

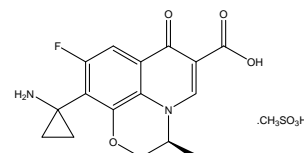
1. Patel and Spencer (1996) *Drugs* 51:13; 2. Melo et al. (2011) *Proc Natl Acad Sci USA* 108:4394

## Pazufloxacin mesylate

Cat. No.	Size	Price
<a href="#">BG0617</a>	<a href="#">500 mg</a>	<a href="#">216 CHF</a>

(3R)-10-(1-Aminocyclopropyl)-9-fluoro-3-methyl-7-oxo-1H,7H-[1,3]oxazino[5,4,3-ij]quinoline-carboxylic acid mesylate; Pasil; Pazucross  
M.W. 414.41 C<sub>16</sub>H<sub>15</sub>FN<sub>2</sub>O<sub>4</sub>·CH<sub>3</sub>SO<sub>3</sub>H [163680-77-1] Store at RT  
Soluble to 100 mM in DMSO or in ethanol

An oral broad-spectrum fluoroquinolone antibacterial agent. Displays a wide range of activities and potent actions against both gram-positive and gram-negative bacteria.



### Reference

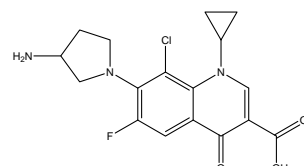
1. Rubinstein (2001) *Chemotherapy* 47 Suppl 3:3; 2. Isozumi et al. (2009) *Respirology* 14:1206

## Clinafloxacin

Cat. No.	Size	Price
<a href="#">BG0618</a>	<a href="#">500 mg</a>	<a href="#">300 CHF</a>

7-(3-Aminopyrrolidin-1-yl)-8-chloro-1-cyclopropyl-6-fluoro-4-oxoquinoline-3-carboxylic acid  
M.W. 365.79 C<sub>17</sub>H<sub>17</sub>ClFN<sub>3</sub>O<sub>3</sub> [105956-97-6] Store at RT  
Soluble to 100 mM in DMSO or in ethanol

An oral broad-spectrum fluoroquinolone antibacterial agent. Displays a wide range of activities and potent actions against both gram-positive and gram-negative bacteria.



### Reference

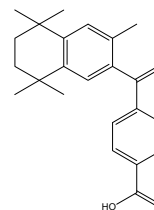
1. Rubinstein (2001) *Chemotherapy* 47 Suppl 3:3; 2. Zhanel et al. (2002) *Drugs* 62:13

## Bexarotene

Cat. No.	Size	Price
<a href="#">BG0619</a>	<a href="#">50 mg</a>	<a href="#">150 CHF</a>

4-[[11-(3,5,5,8,8-Pentamethyltetralin-2-yl)ethenyl]benzoic acid; LGD-1069; Targretin; Targretyn; Targrexin  
M.W. 348.48 C<sub>24</sub>H<sub>28</sub>O<sub>2</sub> [153559-49-0] Desiccate at -20° C  
Soluble to 100 mM in DMSO or in ethanol

A synthetic retinoid analogue displaying specific affinity for the retinoid X receptor (RXR). An antitumour agent, that is used for the treatment of refractory advanced-stage cutaneous T-cell lymphomas (CTCL).



### Reference

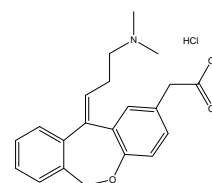
1. Wu et al. (2002) *Cancer Res* 62: 6376; 2. Gniadecki et al. (2007) *Br J Dermatol* 157: 433

## Olopatadine hydrochloride

Cat. No.	Size	Price
<a href="#">BG0621</a>	<a href="#">25 mg</a>	<a href="#">114 CHF</a>

[(11Z)-11-[3-(Dimethylamino)propylidene]-6,11-dihydrodibenzo[b,e]oxepin-2-yl]acetic acid hydrochloride; Pataday; Patanol; Opatanol  
M.W. 373.87 C<sub>21</sub>H<sub>25</sub>N<sub>3</sub>O<sub>3</sub>·HCl [140462-76-6] Store at RT  
Soluble to 100 mM in DMSO or in ethanol

Antiallergic agent. A dual acting histamine H<sub>1</sub> receptor antagonist (K<sub>i</sub> value = 32 nM) and mast cell stabilizer.



### Reference

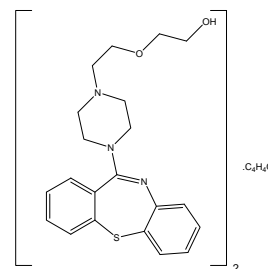
1. Miyake et al. (2001) *Jpn J Pharmacol* 2001 85:453; 2. Roland et al. (2010) *Expert Opin Pharmacother* 11:1559

## Quetiapine fumarate

Cat. No.	Size	Price
<a href="#">BG0622</a>	<a href="#">25 mg</a>	<a href="#">114 CHF</a>

2-(2-(4-Dibenzo[b,f][1,4]thiazepine-11-yl-1-piperazinyl)ethoxy)ethanol fumarate (2:1) salt; Seroquel; Ketipinor  
M.W. 883.09 (C<sub>21</sub>H<sub>25</sub>N<sub>3</sub>O<sub>2</sub>S)<sub>2</sub>·C<sub>4</sub>H<sub>4</sub>O<sub>4</sub> [111974-72-2] Store at RT  
Soluble to 100 mM in DMSO or in ethanol

An atypical antipsychotic agent. Its antipsychotic effect is thought to be mediated through antagonist activity at dopamine and serotonin receptors. It has antagonistic effects at dopamine D<sub>1</sub>, D<sub>2</sub>, serotonin 5-HT<sub>1A</sub>, 5-HT<sub>2A</sub>, 5-HT<sub>2C</sub>, 5-HT<sub>7</sub>, histamine H<sub>1</sub>, α<sub>1</sub> and α<sub>2</sub> receptors. Norquetiapine, the active metabolite, displays most of the effects of quetiapine with similar potencies and is also a potent norepinephrine reuptake inhibitor and muscarinic antagonist.



### Reference

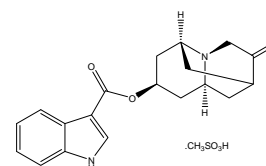
1. Goren and Levin (1998) *Pharmacotherapy* 18:1183; 2. Ravindran et al. (2010) *Expert Opin Investig Drugs* 19:1187

## Dolasetron mesylate

Cat. No.	Size	Price
<a href="#">BG0623</a>	<a href="#">25 mg</a>	<a href="#">114 CHF</a>

(3R)-10-Oxo-8-azatricyclo[5.3.1.0<sup>3,8</sup>]undec-5-yl 1H-indole-3-carboxylate mesylate; MDL 73,147; Anzemet  
M.W. 420.48 C<sub>19</sub>H<sub>20</sub>N<sub>2</sub>O<sub>3</sub>·CH<sub>3</sub>SO<sub>3</sub>H [115956-13-3] Store at +4° C  
Soluble to 100 mM in DMSO or in ethanol

Antinauseant and antiemetic agent. A selective 5-HT<sub>3</sub> receptor antagonist (K<sub>i</sub> value = 20 nM), displaying no activity at other known serotonin receptors and with low affinity for dopamine receptors.



### Reference

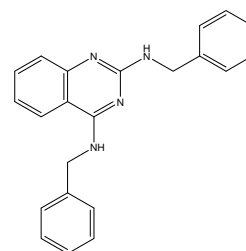
1. Boeijinga et al. (1992) *Eur J Pharmacol* 219:9; 2. Balfour and Goa (1997) *Drugs* 54:273

## DBeQ

Cat. No.	Size	Price
<a href="#">BN0824</a>	<a href="#">25 mg</a>	<a href="#">288 CHF</a>

*N,N'*-Dibenzylquinazoline-2,4-diamine  
M.W. 340.42 C<sub>22</sub>H<sub>20</sub>N<sub>4</sub> Store at +4° C  
Soluble to 100 mM in DMSO or in ethanol

A potent and reversible ATP-competitive inhibitor of p97. It blocks both ubiquitin-dependent and autophagic protein clearance pathways. It potentially inhibits cancer cell growth and is more rapid than a proteasome inhibitor at mobilizing the executioner caspases-3 and -7.



### Reference

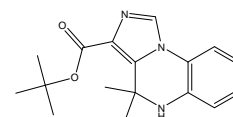
1. Chou et al. (2011) *Proc Natl Acad Sci USA* 108:4834

## U 93631

Cat. No.	Size	Price
<a href="#">BN0825</a>	<a href="#">10 mg</a>	<a href="#">132 CHF</a>

*tert*-Butyl 4,5-dihydro-4,4-dimethylimidazo[1,5-a]quinoxaline-3-carboxylate; U-93631  
M.W. 299.37 C<sub>17</sub>H<sub>21</sub>N<sub>3</sub>O<sub>2</sub> [152273-12-6] Store at RT  
Soluble to 100 mM in DMSO or to 100 mM in ethanol

GABA<sub>A</sub> antagonist. It acts at the picrotoxin site on GABA<sub>A</sub> receptors, decreases single-channel open probability and causes rapid decay of  $\gamma$ -aminobutyric acid-induced chloride currents in recombinant rat GABA<sub>A</sub> receptors. It also inhibits 5-HT<sub>3A</sub> receptors (potency 5-10 fold lower than typically observed in GABA<sub>A</sub> receptors).



### Reference

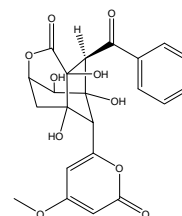
1. Dillon et al. (1993) *Mol Pharmacol* 44:860; 2. Dillon et al. (1995) *J Pharmacol Exp Ther* 272:597; 3. Bell-Horner et al. (2000) *Brain Res Mol Brain Res* 76:47; 4. Das et al. (2003) *Neuropharmacology* 44:431

## Enterocin

Cat. No.	Size	Price
<a href="#">BN0826</a>	<a href="#">1 mg</a>	<a href="#">270 CHF</a>

*Vulgamycin*; A 5294; WS 8096; Antibiotic A 5294; Antibiotic WS 8096  
M.W. 444.39 C<sub>22</sub>H<sub>20</sub>O<sub>10</sub> [59678-46-5] Desiccate at -20° C  
Soluble to 100 mM in DMSO or to 100 mM in ethanol

A potent antibiotic with broad spectrum activity against gram-positive and gram-negative bacteria. Although the mechanism of action of enterocin is unknown, it acts synergistically with streptomycin and chloramphenicol. It is produced by *Streptomyces* sp.



### Reference

1. Miyairi et al. (1976) *J Antibiot* 29:227; 2. Piel et al. (2000) *J Am Chem Soc* 122:5415

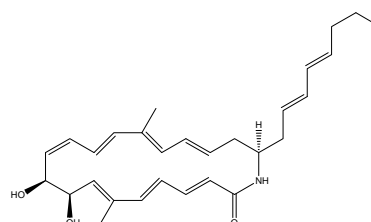
## Heronamide C

Cat. No.	Size	Price
<a href="#">BN0827</a>	<a href="#">1 mg</a>	<a href="#">336 CHF</a>

(3E,5E,7E,9R,10S,11Z,13E,15E,17E,20R)-9,10-Dihydroxy-7,15-dimethyl-20-((2E,4E)-octa-2,4-dienyl)azacycloicosa-3,5,7,11,13,15,17-heptaen-2-one

M.W. 449.62 C<sub>29</sub>H<sub>39</sub>NO<sub>3</sub> [1257083-94-5] Desiccate at -20° C  
Soluble to 100 mM in DMSO or to 100 mM in ethanol

An unusual polyene macrocyclic lactam containing two isolated tetraene and triene chromophores. It was found to induce a unique reversible vacuolisation of mammalian tumour cells by an as yet unidentified mechanism. It is produced by *Streptomyces* sp.



### Reference

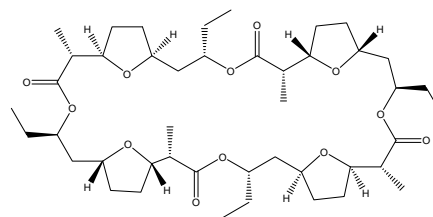
1. Raju et al. (2010) *Org Biomol Chem* 8:4682

## Tetranactin

Cat. No. **BN0828** Size **1 mg** Price **336 CHF**

(1R,2R,5R,7R,10S,11S,14S,16S,19R,20R,23R,25R,28S,29S,32S,34S)-5,14,23,32-Tetraethyl-2,11,20,29-tetramethyl-4,13,22,31,37,38,39,40-octaoxapentacyclo[32.2.1.17,10.116,19.125,28]tetracontane-3,12,21,30-tetrone  
M.W. 793.04 C<sub>44</sub>H<sub>72</sub>O<sub>12</sub> [33956-61-5] Desiccate at -20° C  
Soluble to 100 mM in DMSO or to 100 mM in ethanol

A Macrotetrolide antibiotic, that is thought to act as a monovalent cation ionophore with high selectivity for ammonium and potassium. Unlike the other macrotetrolides, it is reported to exhibit potent insecticidal activity. Furthermore, it inhibits interleukin-1 $\beta$  and cAMP induction of group II phospholipase A<sub>2</sub> in rat renal mesangial cells. It is produced by *Streptomyces sp.*



### Reference

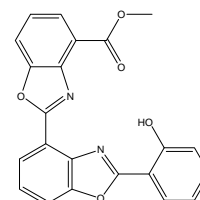
1. Ando et al. (1971) *J Antibiot* 24:347; 2. Ando et al. (1971) *J Antibiot* 24:418; 3. Walker et al. (1996) *Eur J Pharmacol* 306:265

## Antibiotic UK-1

Cat. No. **BN0829** Size **1 mg** Price **336 CHF**

Methyl 2'-(2-hydroxyphenyl)-2,4'-bibenzo[d]oxazole-4-carboxylate  
M.W. 386.36 C<sub>22</sub>H<sub>14</sub>N<sub>2</sub>O<sub>5</sub> [151271-53-3] Desiccate at -20° C  
Soluble to 100 mM in DMSO or in ethanol

An inhibitor of human DNA topoisomerase II, also acting as a magnesium ion-dependent DNA binding agent. It exhibits good antitumour activity, but is devoid of antimicrobial activity. An unusual bis-benzoxazole metabolite isolated from *Streptomyces sp.*



### Reference

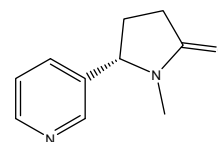
1. Ueki et al. (1993) *J Antibiot* 46:1089; 2. Shibata (1993) *J Antibiot* 46:1095; 3. Reynolds et al. (1999) *Bioorg Chem* 27:326

## (-)-Cotinine

Cat. No. **BN0830** Size **250 mg** Price **180 CHF**

(S)-1-Methyl-5-(3-pyridyl)-2-pyrrolidinone  
M.W. 176.22 C<sub>10</sub>H<sub>12</sub>N<sub>2</sub>O [486-56-6] Store at +4° C  
Soluble to 100 mM in DMSO or in ethanol

Major metabolite of nicotine. It selectively activates a subpopulation of  $\alpha3/\alpha6\beta2$  nicotinic receptors in monkey striatum. Furthermore, it reduces amyloid- $\beta$  aggregation and improves memory in Alzheimer's disease (AD) mice.



### Reference

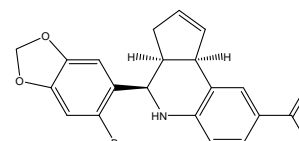
1. Buccafusco and Terry (2003) *Life Sci* 72:2931; 2. Terry et al. (2005) *CNS Drug Rev* 11:229; 3. O'Leary et al. (2008) *J Pharmacol Exp Ther* 325:646; 4. Echeverria et al. (2011) *J Alzheimers Dis* 23:1

## G-1

Cat. No. **BN0831** Size **10 mg** Price **186 CHF**

rel-1-[4-(6-Bromo-1,3-benzodioxol-5-yl)-3aR,4S,5,9bS-tetrahydro-3H-cyclopenta[c]quinolin-8-yl]-ethanone  
M.W. 412.28 C<sub>27</sub>H<sub>18</sub>BrNO<sub>3</sub> [881639-98-1] Store at -20° C (protect from light)  
Soluble to 100 mM in DMSO

A nonsteroidal, high-affinity, selective agonist of GPR30 (K<sub>i</sub> value = 11 nM). GPR30 is a transmembrane G protein-coupled receptor (GPCR) localized to endoplasmic reticulum (ER) that binds estradiol with high affinity. Competitive binding studies in ER $\alpha$ - and ER $\beta$ -expressing cells yielded K<sub>i</sub> values for estradiol of 0.30 and 0.38 nM, respectively, with no substantial binding of G-1 at 1  $\mu$ M. Recently, the beneficial role of G-1 has been shown in an animal model of multiple sclerosis (MS). See also G-15 (Cat. No. BN0832).



### Reference

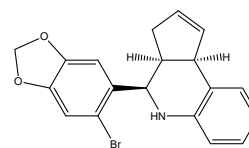
1. Revankar et al. (2005) *Science* 307:1625; 2. Bologna et al. (2006) *Nat Chem Biol* 2:207; 3. Blasko et al. (2009) *J Neuroimmunol* 214:67

## G-15

Cat. No.	Size	Price
<a href="#">BN0832</a>	<a href="#">10 mg</a>	<a href="#">186 CHF</a>

*cis*-4-(6-Bromo-benzo[1,3]dioxol-5-yl)-3a,4,5,9b-tetrahydro-3H-cyclopenta[*c*]quinoline  
M.W. 370.24 C<sub>19</sub>H<sub>16</sub>BrNO<sub>2</sub> [1005086-82-7] Store at -20° C (protect from light)  
Soluble to 100 mM in DMSO

A nonsteroidal, high-affinity, selective agonist of GPR30 (K<sub>i</sub> value ~ 33 nM). GPR30 is a transmembrane G protein-coupled receptor (GPCR) localized to endoplasmic reticulum (ER) that binds estradiol with high affinity. See also G-1 (Cat. No. BN0831).



### Reference

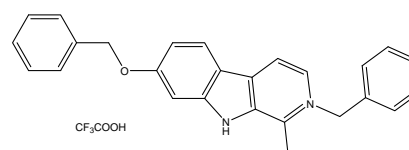
1. Dennis et al. (2009) *Nature Chem Biol* 5:421

## 2-Benzyl-7-benzyloxyharmane

Cat. No.	Size	Price
<a href="#">BN0833</a>	<a href="#">5 mg</a>	<a href="#">420 CHF</a>

2-Benzyl-7-benzyloxyharmane trifluoroacetate  
M.W. 493.50 C<sub>26</sub>H<sub>23</sub>N<sub>2</sub>O .CF<sub>3</sub>COOH Store at +4° C  
Soluble to 100 mM in DMSO or in ethanol

Cytochrom P450 substrate, that is metabolized primarily by cytochrome P450 isoenzyme 3A4 and 1B1. Norharmane and harmane (Cat. No. BN0247) are naturally occurring β-carboline alkaloids exhibiting a wide range of biological, psychopharmacological and toxicological actions. They occur in foods and tobacco smoke and also appear endogenously in humans.



### Reference

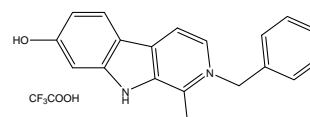
1. Herraiz et al. (2008) *Chem Res Toxicol* 21:2172

## 2-Benzyl-7-hydroxyharmane

Cat. No.	Size	Price
<a href="#">BN0834</a>	<a href="#">5 mg</a>	<a href="#">420 CHF</a>

2-Benzyl-7-hydroxyharmane trifluoroacetate  
M.W. 403.37 C<sub>19</sub>H<sub>17</sub>N<sub>2</sub>O .CF<sub>3</sub>COOH Store at +4° C  
Soluble to 100 mM in DMSO or in ethanol

Cytochrom P450 substrate. Norharmane and harmane (Cat. No. BN0247) are naturally occurring β-carboline alkaloids exhibiting a wide range of biological, psychopharmacological and toxicological actions. They occur in foods and tobacco smoke and also appear endogenously in humans.



### Reference

1. Herraiz et al. (2008) *Chem Res Toxicol* 21:2172

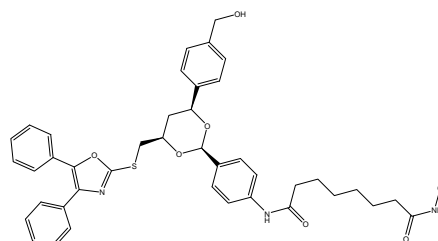
## Tubacin

Cat. No.	Size	Price
<a href="#">BN0835</a>	<a href="#">100 µg</a>	<a href="#">132 CHF</a>

*N*-(4-((2*R*,4*R*,6*S*)-4-(((4,5-diphenyl-1,3-oxazol-2-yl)sulfanyl)methyl)-6-[4-(hydroxymethyl)phenyl]-1,3-dioxan-2-yl)phenyl)-*N'*-hydroxyoctanediamide

M.W. 721.86 C<sub>41</sub>H<sub>43</sub>N<sub>3</sub>O<sub>7</sub>S [537049-40-4] Store at +4° C  
Soluble to 10 mg/ml in DMSO or in ethanol

A highly potent, selective, reversible and cell-permeable inhibitor of histone deacetylase HDAC6 (IC<sub>50</sub> value = 4 nM). HDAC6 interacts with tau (τ) protein *in vitro*, *in situ* and in human brain tissues, thus defining τ as an HDAC6 interacting protein. Also, the protein level of HDAC6 in Alzheimer's Disease (AD) brain is significantly increased compared with normal brain.



### Reference

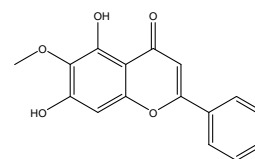
1. Haggarty et al. (2003) *Proc Natl Acad Sci USA* 100:4389 (2003); 2. Ding et al. (2008) *J Neurochem* 106:2119; 3. Namdar et al. (2010) *Proc Natl Acad Sci USA* 107:20003

## Oroxylin A

Cat. No. **BN0836** Size **5 mg** Price **144 CHF**

5,7-Dihydroxy-6-methoxy-2-phenyl-4H-1-benzopyran-4-one; 5,7-Dihydroxy-6-methoxyflavone; 6-Methoxybaicalein  
M.W. 284.26 C<sub>16</sub>H<sub>12</sub>O<sub>5</sub> [480-11-5] Store at +4° C  
Soluble to 100 mM in DMSO or in ethanol

A flavonoid isolated from *Scutellaria baicalensis* (important medicinal herb in traditional Korean/Chinese/Japanese medicine). It displays amelioration of Aβ(25-35) peptide-induced memory impairment, that is believed to be mediated via the GABAergic system, iNOS expression, lipid peroxidation and increased cholinergic neurotransmission. Furthermore, it induces apoptosis in human hepatocellular carcinoma cell line HepG2.



### Reference

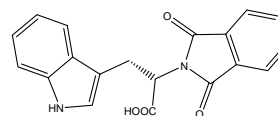
1. Hu et al. (2006) *Biochem Biophys Res Commun* 351:521; 2. Kim et al. (2008) *Neuropharmacology* 55:639; 3. Mu et al. (2009) *Mol Carcinog* 48:1159; 4. Yang et al. (2011) *Mol Carcinog* 2011 May 6. doi: 10.1002/mc.20789. [Epub ahead of print]

## RG 108

Cat. No. **BN0837** Size **10 mg** Price **130 CHF**

2-(1,3-Dioxoisindolin-2-yl)-3-(1H-indol-3-yl)propanoic acid; RG-108; N-Phthalyl-L-tryptophan  
M.W. 334.33 C<sub>19</sub>H<sub>14</sub>N<sub>2</sub>O<sub>4</sub> [48208-26-0] Store at RT  
Soluble to 100 mM in DMSO or to 100 mM in ethanol

A non-nucleoside DNA methyltransferase inhibitor (IC<sub>50</sub> = 115 nM). It inhibits DNA methyltransferase activity by blocking the enzyme active site, and it significantly reduces the methylation of genomic DNA in cells at 10 μM without detectable toxicity. Antitumour agent.



### Reference

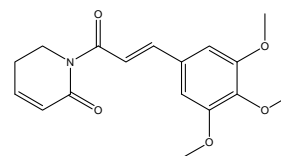
1. Brueckner et al. (2005) *Cancer Res* 65:6305; 2. Stresemann et al. (2006) *Cancer Res* 66:2794; 3. Schirrmacher et al. (2006) *Bioconjug Chem* 17:261; 4. Liang et al. (2010) *J Biol Chem* 285:25516

## Piperlongumine

Cat. No. **BN0838** Size **50 mg** Price **228 CHF**

(E)-1-(3-(3,4,5-trimethoxyphenyl)acryloyl)-5,6-dihydropyridin-2(1H)-one  
M.W. 317.34 C<sub>17</sub>H<sub>19</sub>NO<sub>5</sub> [20069-09-4] Desiccate at +4° C  
Soluble to 25 mg/ml in DMSO or in ethanol

Antitumour agent. It increases the level of reactive oxygen species (ROS) and apoptotic cell death in both cancer cells and normal cells engineered to have a cancer genotype, irrespective of p53 status. But it has little effect on either rapidly or slowly dividing primary normal cells. Significant antitumour effects are observed in piperlongumine-treated mouse xenograft tumour models, with no apparent toxicity in normal mice. A natural product constituent of the fruit of the Long pepper (*Piper longum*).



### Reference

1. Raj et al. (2011) *Nature* 475: 231; 2. Luo et al. (2011) *Bioorg Med Chem Lett* 21:4844

## TAT-CBD3

Cat. No. **BP0419** Size **1 mg** Price **300 CHF**

YGRKRRQRARRSRLAELRGVPRGL  
M.W. 3192.74 C<sub>134</sub>H<sub>243</sub>N<sub>59</sub>O<sub>32</sub> Desiccate at -20° C  
Soluble in water

A peptide of CRMP-2 fused to the HIV transactivator of transcription (TAT) protein. It shows decreased neuropeptide release from sensory neurons and excitatory synaptic transmission in dorsal horn neurons, reduced meningeal blood flow, reduced nocifensive behavior induced by formalin injection or corneal capsaicin application and reversed neuropathic hypersensitivity produced by an antiretroviral drug. It is mildly anxiolytic without affecting memory retrieval, sensorimotor function or depression. By preventing CRMP-2-mediated enhancement of Ca<sub>v</sub>2.2 function, it alleviates inflammatory and neuropathic hypersensitivity, an approach that may be useful in managing chronic pain.

H-Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-Arg-Arg-Ala-Arg-Ser-Arg-Leu-Ala-Glu-Leu-Arg-Gly-Val-Pro-Arg-Gly-Leu-OH

### Reference

1. Brittain et al. (2011) *Nat Med*, published online 5 June 2011; doi:10.1038/nm.2345

## GLP-1 (9-36) amide (human, bovine, gp, mouse, porcine, rat)

Cat. No.	Size	Price
<a href="#">BP0420</a>	1 mg	288 CHF

Glucagon-like peptide 1 (9-36) amide (human, bovine, guinea-pig, mouse, porcine, rat)  
M.W. 3089.41 C<sub>140</sub>H<sub>214</sub>N<sub>36</sub>O<sub>43</sub> [161748-29-4] Desiccate at -20° C  
Soluble to 1 mg/ml in water

*N*-terminal truncated metabolite of glucagon-like peptide GLP-1-(7-36) amide (Cat. No. BP0134), that acts as an antagonist at human GLP-1 receptors. It inhibits hepatic glucose production *in vivo* and is a weak insulinotropic agent.

H-Glu-Gly-Thr-Phe-Thr-Ser-Asp-Val-Ser-Ser-Tyr-Leu-Glu-Gly-Gln-Ala-Ala-Lys-Glu-Phe-Ile-Ala-Trp-Leu-Val-Lys-Gly-Arg-NH<sub>2</sub>

### Reference

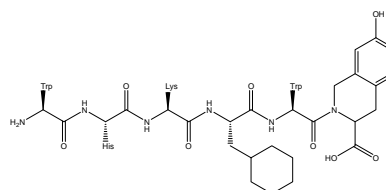
1. Deacon et al. (1995) *J Clin Endocrinol Met* 80:952; 2. Knudsen and Pridal (1996) *Eur J Pharmacol* 318:429; 3. Elahi et al. (2008) *Obesity* 16:1501

## WW61

Cat. No.	Size	Price
<a href="#">BP0421</a>	1 mg	300 CHF

Trp-His-Lys-β-cyclohexyl-L-Ala-Trp-7-hydroxy-(S)-1,2,3,4-tetrahydroisoquinoline-3-carboxylic acid; H-Trp-His-Lys-chAla-Trp-hydroxyTic  
M.W. 1208.33 C<sub>61</sub>H<sub>73</sub>N<sub>15</sub>O<sub>12</sub> Desiccate at -20° C  
Soluble to 1 mg/ml in water

Potent fibril formation inhibitor of <sup>248</sup>PAP<sup>286</sup>. It effectively delays both seeded and unseeded fibril formation of <sup>248</sup>PAP<sup>286</sup> *in vitro*. <sup>248</sup>PAP<sup>286</sup> fibrils, also known as semenderived enhancer of virus infection (SEVI), enhance HIV infection by orders of magnitude in cell culture studies, whereas the monomeric peptide is inactive.



### Reference

1. Sievers et al. (2011) *Nature* DOI:10.1038/nature10154

## D-TLKIVW

Cat. No.	Size	Price
<a href="#">BP0422</a>	1 mg	192 CHF

D-Thr-D-Leu-D-Lys-D-Ile-D-Val-D-Trp  
M.W. 758.95 C<sub>38</sub>H<sub>62</sub>N<sub>8</sub>O<sub>8</sub> Desiccate at -20° C  
Soluble to 1 mg/ml in water

Potent fibril formation inhibitor of Tau (τ) protein, which is associated with Alzheimer's disease (AD). It is unable to block the fibril formation of amyloid-β, which also is associated with AD. This suggests that the D-peptide inhibitor is not general to amyloid systems, but is specific to the VQIVYK interface in τ protein.

D-Thr-D-Leu-D-Lys-D-Ile-D-Val-D-Trp

### Reference

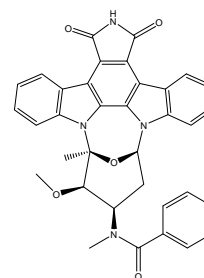
1. Sievers et al. (2011) *Nature* DOI:10.1038/nature10154

## Stauprimide

Cat. No.	Size	Price
<a href="#">BS0296</a>	1 mg	216 CHF

[9S-(9α, 10β, 11β, 13α)]-N-(2, 3, 10, 11, 12, 13-Hexahydro-10-methoxy-9-methyl-1, 3-dioxo-9, 13-epoxy-1H, 9H-diindolo[1, 2, 3-gh:3', 2', 1'-lm]pyrrolo[3, 4-j][1, 7]benzodiazonin-11-yl)-N-methylbenzamide; N-Benzoyl-7-oxo-staurosporine  
M.W. 584.62 C<sub>35</sub>H<sub>28</sub>N<sub>4</sub>O<sub>5</sub> [154589-96-5] Desiccate at -20° C  
Soluble to 20 mg/ml in DMSO

A staurosporine (Cat. No. BS0188) analogue, that increases the efficiency of directed differentiation of mouse and human embryonic stem cells (ESCs). It enhances ESC exit from the pluripotent state and enables differentiation. It binds to NME2 and inhibits its nuclear localization, thus leading to downregulation of c-Myc.



### Reference

1. Zhu et al. (2009) *Cell Stem Cell* 4:416; 2. Zaret (2009) *Cell Stem Cell* 4:373

## TBCA

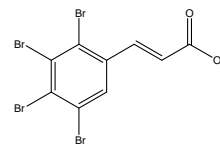
Cat. No.	Size	Price
<a href="#">BS0297</a>	<a href="#">5 mg</a>	<a href="#">149 CHF</a>

(E)-3-(2,3,4,5-Tetrabromophenyl)acrylic acid

M.W. 463.74 C<sub>9</sub>H<sub>4</sub>Br<sub>4</sub>O<sub>2</sub> [934358-00-6] Desiccate at +4° C

Soluble to 100 mM in DMSO or in ethanol

A cell-permeable, highly selective and potent ATP-competitive inhibitor of Casein Kinase II (CK-2; IC<sub>50</sub> = 110 nM, K<sub>i</sub> = 77 nM). See also TBB (Cat. No. BS0193).



### Reference

1. Pagano et al. (2006) *Chembiochem* 8:129; 2. Kramerov et al. (2011) *Mol Cell Biochem* 349:125

## Dorsomorphin

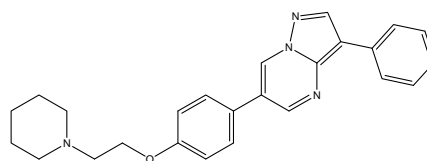
Cat. No.	Size	Price
<a href="#">BS0298</a>	<a href="#">5 mg</a>	<a href="#">107 CHF</a>

6-[4-[2-(1-Piperidinyloxy)phenyl]-3-(4-pyridinyl)-pyrazolo[1,5-a]pyrimidine; BML-275; Compound C

M.W. 399.49 C<sub>24</sub>H<sub>25</sub>N<sub>5</sub>O [866405-64-3] Desiccate at -20° C

Soluble to 4 mg/ml in DMSO or in ethanol

Potent and selective AMP-activated protein kinase (AMPK) inhibitor (K<sub>i</sub> value = 109 nM). Inhibits AMPK activation induced by AICAR (Cat. No. BS0248) and metformin (Cat. No. BG0401). Displays no significant activity on several structurally related kinases (e.g. ZAPK, SYK, PKA and JAK3).



### Reference

1. Zhou et al. (2001) *J Clin Invest* 108:1167; 2. Kim et al. (2004) *J Biol Chem* 279:19970; 3. Yu et al. (2008) *Nat Chem Biol* 4:33

## Deltamethrin

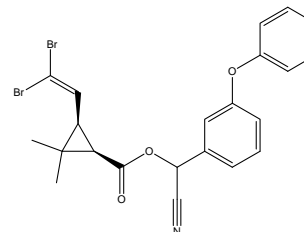
Cat. No.	Size	Price
<a href="#">BS0302</a>	<a href="#">50 mg</a>	<a href="#">264 CHF</a>

(S)-α-Cyano-3-phenoxybenzyl (1R)-cis-3-(2,2-dibromo-vinyl)-2,2-dimethylcyclopropanecarboxylate; Decamethrin

M.W. 505.20 C<sub>22</sub>H<sub>19</sub>Br<sub>2</sub>NO<sub>3</sub> [52918-63-5] Store at +4° C

Soluble to 5 mg/ml in DMSO or ethanol, insoluble in water

A potent inhibitor of calcineurin (Protein phosphatase 2B; IC<sub>50</sub> about 100 pM). This inhibitory action results in cellular hyperexcitability by causing non-mutated calcium channels to remain open for an extended period of time allowing an abundance of Ca<sup>2+</sup> to enter the cell. Some sodium channel mutations such as the L993F mutation in *Xenopus oocytes* show decreased sensitivity to deltamethrin. A type II semi-synthetic pyrethrin insecticide.



### Reference

1. Enan and Matsumura (1992) *Biochem Pharm* 43:1777; 2. Tan et al. (2002) *Insect Biochem Mol Biol* 32:445

## Roscovitine

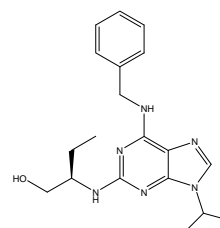
Cat. No.	Size	Price
<a href="#">BS0304</a>	<a href="#">10 mg</a>	<a href="#">174 CHF</a>

[6-Benzylamino-2[(R)-(1'-ethyl-2'-hydroxyethylamino)]-9-isopropylpurine; CYC202; Seliciclib

M.W. 354.45 C<sub>19</sub>H<sub>26</sub>N<sub>6</sub>O [186692-46-6] Desiccate at -20° C

Soluble to 100 mM in DMSO or in ethanol

A potent inhibitor of Cyclin-dependent kinase (CDK) p34<sup>cdc2</sup> (IC<sub>50</sub> value = 200 nM). It also inhibits Cyclin-dependent kinase p33<sup>cdk2</sup> and p33<sup>cdk5</sup>. See also Olomoucine (Cat. No. BS0140). It is being researched for the treatment of non-small cell lung cancer (NSCLC), leukemia, HIV infection, herpes simplex infection, and the mechanisms of chronic inflammation disorders.



### Reference

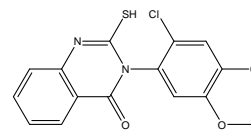
1. Havlicek et al. (1997) *J Med Chem* 40:408; 2. Sroka et al. (2010) *Mol Pharmacol* 77:255; 3. Berberich et al. (2011) *Br J Pharmacol* 163:1086

## Mitochondrial Division Inhibitor (mdivi-1)

Cat. No. **BS0305** Size **10 mg** Price **114 CHF**

3-(2,4-Dichloro-5-methoxy-phenyl)-2-thioxo-1H-quinazolin-4-one; mdivi-1  
M.W. 353.22 C<sub>15</sub>H<sub>10</sub>Cl<sub>2</sub>N<sub>2</sub>O<sub>2</sub>S [338967-87-6] Desiccate at -20° C  
Soluble to 100 mM in DMSO or in ethanol

A cell-permeable dynamin-related GTPase inhibitor (IC<sub>50</sub> = 10 μM and 50 μM in yeast and COS cultures, respectively). In cell-free studies, it blocks Dnm1 ATPase activity (IC<sub>50</sub> < 10 μM) and self-assembly by an allosteric modulation-based mechanism. *In vitro*, it potently blocks Bid-activated Bax/Bak-dependent cytochrome c release from mitochondria.



### Reference

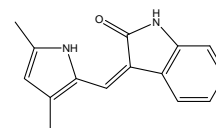
1. Cassidy-Stone et al. (2008) *Dev Cell* 14:193

## SU 5416

Cat. No. **BS0306** Size **10 mg** Price **132 CHF**

3-[(3,5-Dimethyl-1H-pyrrol-2-yl)methylene]-1,3-dihydro-2H-indol-2-one; Semaxinib  
M.W. 238.28 C<sub>15</sub>H<sub>14</sub>N<sub>2</sub>O [204005-46-9] Desiccate at -20° C  
Soluble to 100 mM in DMSO or to 100 mM in ethanol

Antitumour agent. A potent vascular endothelial growth factor receptor (VEGFR) inhibitor, that also inhibits other tyrosine kinases KIT, MET, FLT3 and RET. Displays no activity against PDGFR, EGFR, HER2 and IGF1R.



### Reference

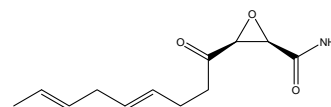
1. Fong et al. (1999) *Cancer Res* 59:99; 2. Smolich et al. (2001) *Blood* 97:1413; 3. Mologni et al. (2006) *J Mol Endocrinol* 37:199; 4. Bürger et al. (2010) *Int J Dev Neurosci* 28:597

## Cerulenin

Cat. No. **BS0307** Size **5 mg** Price **119 CHF**

2,3-Epoxy-4-oxo-7,10-dodecadienamide  
M.W. 223.27 C<sub>12</sub>H<sub>17</sub>NO<sub>3</sub> [17397-89-6] Store at +4° C (protect from light)  
Soluble to 100 mM in DMSO or in ethanol

An irreversible inhibitor of fatty acid synthase (FAS). The inhibition of FAS by Cerulenin leads to cytotoxicity and apoptosis in human cancer cell lines. Also an antifungal antibiotic.



### Reference

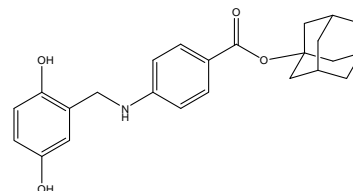
1. Moche et al. (1999) *J Biol Chem* 274:6031; 2. Pizer et al. (2000) *Cancer Res* 60:213; 3. Loftus et al. (2000) *Science* 288:2379; 4. Murata et al. (2010) *Cancer Sci* 101:1861

## Adaphostin

Cat. No. **BS0308** Size **10 mg** Price **154 CHF**

4-[[[2,5-Dihydroxyphenyl)methyl]amino]benzoic acid tricyclo[3.3.1.1<sup>3,7</sup>]dec-1-yl ester; NSC 680410  
M.W. 393.48 C<sub>24</sub>H<sub>27</sub>NO<sub>4</sub> [241127-58-2] Desiccate at -20° C  
Soluble to 25 mg/ml in DMSO or 25 mg/ml in ethanol

It induces apoptosis in tumour cells through inhibition of the tyrosine kinase bcr/abl. Antitumour agent, that has significant anti-proliferative effects in several leukemia models (IC<sub>50</sub> value = 0.5 - 1 μM).



### Reference

1. Orsolic et al. (2006) *Cancer Sci* 97:952; 2. Mukhopadhyay et al. (2006) *J Biol Chem* 281:37330; 3. Li et al. (2006) *Cancer Chemother Pharmacol* 57:607; 4. Long et al. (2007) *Cancer Chemother Pharmacol* 59:527; 5. Fer et al. (2010) *J Exp Clin Cancer Res* 29: