

Neurochemicals

Newsletter

Newsletter 2/2008

New Products for Neurosciences Research

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- BG0446 **Disulfiram** - Alcohol dehydrogenase inhibitor
- BG0448 **Flupirtine maleate** - A nonopioid centrally acting analgesic, selective neuronal potassium channel opener
- BG0449 **Rimcazole dihydrochloride** - σ receptor antagonist
- BG0450 **Granisetron hydrochloride** - Highly specific and selective serotonin 5-HT₃ receptor antagonist

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- BN0681 (**±**)-**Huperzine A** - Acetylcholinesterase inhibitor
- BN0682 **Mecamylamine hydrochloride** - Noncompetitive nicotinic acetylcholine receptor antagonist
- BN0683 **Cilastatin sodium** - Dipeptidase inhibitor
- BN0684 **Geniposide** - GLP-1 receptor agonist

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- BN0685 **Dihydroartemisinin** - Exerts cytotoxic effects, inhibits HIF-1 α activation in C6 glioma cells
- BN0686 **Zonisamide** - Blocker of voltage-sensitive Na⁺ and T-type Ca²⁺ channels
- BN0687 **Amperozide hydrochloride** - Displays high affinity for 5-HT₂ receptors and low affinity for D₂ receptors
- BN0688 **Herkinorin** - Selective agonist at μ -opioid receptors

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- BN0689 (**S**)-**5-Nitrowillardiine** - Broad spectrum agonist for kainate and AMPA receptors
- BN0690 **B-HT 920 dihydrochloride** - α_2 -adrenoceptor agonist, dopamine D₂ receptor agonist
- BN0691 **N-ArachidonoylGABA** - Arachidonoyl amino acid that inhibits pain
- BN0692 **L-759,633** - Selective, potent cannabinoid CB₂ agonist

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- BN0693 **Lipoic acid** - Antioxidant that can act as a direct radical scavenger or as a metal chelator
- BP0357 **Caloxin 2A1** - Plasma membrane Ca²⁺ ATPase (PMCA) inhibitor
- BP0358 **Conantokin G** - A 17-amino-acid N-methyl-D-aspartate (NMDA) antagonist
- BP0359 **AAP10** - Antiarrhythmic peptide that can increase gap junctional intercellular conductance

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- BP0362 **Calcitonin Gene Related peptide (human)** - Endogenous neuropeptide
- BS0233 **Ammonium pyrrolidinedithiocarbamate** - NOS inhibitor
- BS0234 **Anisomycin** - Potent Jun-NH₂ terminal kinase (JNK) agonist
- BS0236 **Aminoguanidine hydrochloride** - Irreversible inhibitor of iNOS

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- Receptor membranes and cell line membranes

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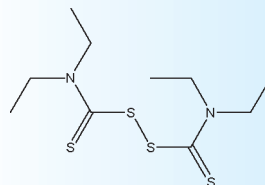
Disulfiram

Cat.No.	Size	Price €
BG0446	1 mg	25,00

A potent, competitive, and reversible inhibitor of equine hepatic alcohol dehydrogenase. Dissociation constants for the reversible inhibition are 50 μM (pH 7.0) and 30 μM (pH 10.1). It was also found to chemically modify and inactivate the enzyme in an irreversible reaction via the formation of a reversible enzyme disulfiram binary complex with a dissociation constant at pH 7.0 of 30 μM . Recently it was shown that it seems to be a promising agent in the treatment of cocaine dependence.

Reference

1. Starling et al. (1996) *Biochem J* 320:101;
2. Langeland and McKinley-McKee (1997) *Comp Biochem Physiol C Pharmacol Toxicol Endocrinol* 117:55-61;
3. Karila et al. (2007) *Int J Neuropsychopharmacol* 10:1



Bis(diethylthiocarbamyl) disulfide; Antabus

M.W. 296.54 $\text{C}_{10}\text{H}_{20}\text{N}_2\text{S}_4$

[97-77-8] Store at RT

Soluble to 20 mM in DMSO or to 382 mg/ml in ethanol

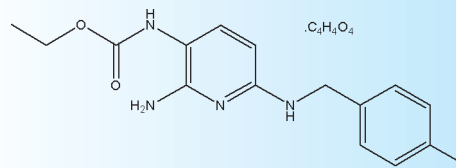
Flupirtine maleate

Cat.No.	Size	Price €
BG0448	10 mg	98,00

A nonopioid centrally acting analgesic and a selective neuronal potassium channel opener.

Reference

1. Osborne et al. (1998) *Gen Pharmacol* 30:255;
2. Muller et al. (2000) *Mech Ageing Dev* 116:163



2-Amino-6-[[[4-fluorophenyl)methyl]amino]-3-pyridinyl]-carbamic acid ethyl ester maleate

M.W. 420.39 $\text{C}_{15}\text{H}_{17}\text{FN}_4\text{O}_2 \cdot \text{C}_4\text{H}_4\text{O}_4$

[75507-68-0] Store at +4 °C

Soluble to 24 mg/ml in DMSO

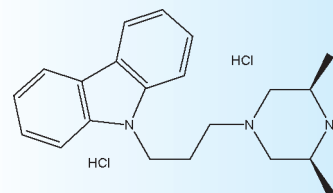
Rimcazole dihydrochloride

Cat.No.	Size	Price €
BG0449	50 mg	98,00

σ receptor antagonist (IC₅₀ values are 1480 and 386 nM at σ_1 and σ_2 receptors respectively). Also inhibits dopamine uptake and binds to the dopamine transporter (IC₅₀ = 57.6 nM).

Reference

1. Ferris et al. (1986) *Life Sci* 38:2329;
2. Husbands et al. (1997) *J Med Chem* 40:4340;
3. Matsumoto et al. (2001) *Neuropharmacology* 41:878;
4. Gilmore et al. (2004) *CNS Drug Rev* 2004 10:1



9-[3-(cis-3,5-Dimethyl-1-piperazinyl)propyl]carbazole dihydrochloride; BW 234U

M.W. 394.38 $\text{C}_{21}\text{H}_{27}\text{N}_3 \cdot 2\text{HCl}$

[75859-03-9] Store at +4 °C

Soluble to 10 mM in water

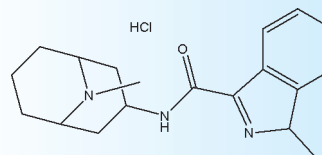
Granisetron hydrochloride

Cat.No.	Size	Price €
BG0450	50 mg	120,00

Antinauseant and antiemetic agent. A highly specific and selective serotonin 5-HT₃ receptor antagonist.

Reference

1. Nelson et al. (1989) *Biochem Pharmacol* 38:1693;
2. Sanger et al. (1989) *Eur J Pharmacol* 159:113;
3. Plosker et al. (1991) *Drugs* 42:805;
4. Aapro (2004) *Oncologist* 9:673



1-Methyl-N-(9-methyl-9-azabicyclo[3.3.1]nonan-3-yl)-1H-indole-3-carboxamide hydrochloride; BRL 43694

M.W. 347.88 $\text{C}_{19}\text{H}_{25}\text{N}_3\text{O} \cdot \text{HCl}$

[107007-99-8] Store at +4 °C

Soluble in water to 100 mM

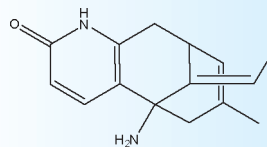
(±)-Huperzine A

Cat.No.	Size	Price €
BN0681	1 mg	120,00

An acetylcholinesterase inhibitor and a naturally occurring sesquiterpene alkaloid found in the extracts of the firmoss *Huperzia serrata*, which has been used in China for centuries for the treatment of swelling, fever and blood disorders. A Phase II clinical trial has started to evaluate the safety and efficiency of huperzine A in the treatment of Alzheimer's disease in a randomized controlled trial of its effect on cognitive function.

Reference

1. Tang et al. (1989) *J Neurosci Res* 24:276;
2. Wang and Tang (2005) *Neurosignals* 14:71;
3. Houghton and Howes (2005) *Neurosignals* 14:6



1-Amino-13-ethylidene-11-methyl-6-aza-tricyclo[7.3.1.0^{2,7}]trideca-2(7),3,10-trien-5-one; (±)-Selagine

M.W. 242.32 C₁₅H₁₈N₂O
[120786-18-7] Store at +4° C
Soluble to 100 mM in DMSO

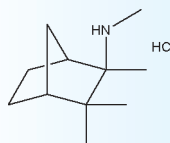
Mecamylamine hydrochloride

Cat.No.	Size	Price €
BN0682	25 mg	130,00

A noncompetitive nicotinic acetylcholine receptor antagonist. It preferentially blocks nicotinic receptors at autonomic ganglia; crosses blood-brain barrier.

Reference

1. Castillo et al. (1999) *J Neurosci* 19:9180;
2. Damaj et al. (1999) *J Pharmacol Exp Ther* 291: 1284;
3. Panagis et al. (2000) *Synapse* 35:15



N,2,3,3-Tetramethylnorbornan-2-amine hydrochloride

M.W. 203.75 C₁₁H₂₁N.HCl
[826-39-1] Store at RT
Soluble to 50 mg/ml in water

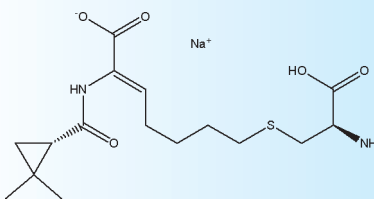
Cilastatin sodium

Cat.No.	Size	Price €
BN0683	10 mg	84,00

A dipeptidase inhibitor. It inhibits the conversion of leukotriene D₄ to leukotriene E₄ and is nephroprotective in cyclosporine A-induced nephrotoxicity.

Reference

1. White et al. (1999) *Anal Biochem* 268:245;
2. Perez et al. (2004) *Nephrol Dial Transplant* 19:2445;
3. Tejedor et al. (2007) *Curr Med Res Opin* 23:505



[R-[R*,S*-(Z)]]-7-[(2-Amino-2-carboxyethyl)thio]-2-[[[(2,2-dimethylcyclopropyl)carbonyl]amino]-2-heptenoic acid monosodium salt

M.W.380.43 C₁₆H₂₅N₂NaO₅
[81129-83-1] Store at -20° C
Soluble to 25 mg/ml in water or to 10 mg/ml in DMSO (37°C)

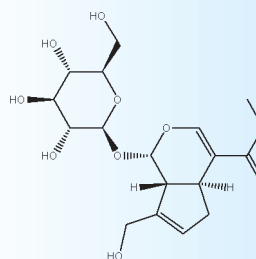
Geniposide

Cat.No.	Size	Price €
BN0684	25 mg	121,00

GLP-1 receptor agonist that prevents PC12 cells from oxidative damage via MAP kinase pathway. Also induces increased activity of phase II detoxifying enzymes, inhibits tumour promotion, and induces apoptosis in rat C6 glioma cells. Iridoid glycoside that is present in fruits of *Gardenia jasminoides* Ellis.

Reference

1. Wang et al. (1991) *Cancer Lett* 60:95;
2. Lee et al. (1995) *Anticancer Res* 15:411;
3. Chang et al. (2002) *Chem Biol Interact* 141:243;
4. Liu et al. (2007) *Neurochem Int* 51:361



Methyl (1R,2S,6S)-9-(hydroxymethyl)-2-[(2S,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)oxan-2-yl]oxy-3-oxabicyclo[4.3.0]nona-4,8-diene-5-carboxylate

M.W. 388.37 C₁₇H₂₄O₁₀
[24512-63-8] Store at +4° C
Soluble in water and ethanol

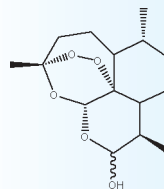
Dihydroartemisinin

Cat. No.	Size	Price €
BN0685	50 mg	150,00

Sesquiterpene lactone, derivative of Artemisinin from plants of the *Artemisia annua*. It exerts cytotoxic effects and inhibits hypoxia inducible factor-1alpha (HIF-1 α) activation in C6 glioma cells. Also used for the treatment of uncomplicated, multidrug-resistant falciparum malaria.

Reference

1. Ashley et al. (2005) *Clin Infect Dis* 41:425;
2. Huang et al. (2007) *J Pharm Pharmacol* 59:849



(3R,5aS,6R,8aS,9R,10S,12R,12aR)]-Decahydro-3,6,9-trimethyl-3,12-epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin-10-ol; Dihydro-Qinghaosu

M.W. 284.35 C₁₅H₂₄O₅
[81496-81-3] Store at +4° C
Soluble in DMSO and ethanol

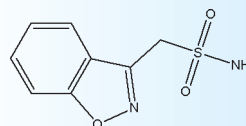
Zonisamide

Cat. No.	Size	Price €
BN0686	10 mg	72,00

Blocker of voltage-sensitive Na⁺ and T-type Ca²⁺ channels, that also stimulates BK_{Ca} channels, modulates GABA, glutamate and monoamine neurotransmission. Furthermore it inhibits lipid peroxidation and scavenges hydroxyl and nitric oxide free radicals. Antiepileptic that displays neuroprotective and antiparkinsonian activity.

Reference

1. Tokumaru et al. (2000) *Neurochem Res* 25:1107;
2. Sobieszek et al. (2003) *Pol J Pharmacol* 55:683;
3. Gluck et al. (2004) *J Neural Transm* 111:713;
4. Biton (2007) *Clin Neuropharmacol* 30:230



1,2-Benzisoxazole-3-methanesulfonamide; AD 810; CL 912

M.W. 212.23 C₈H₈N₂O₃S
[68291-97-4] Store at +4° C
Soluble to 10 mM in water or to 100 mM in DMSO

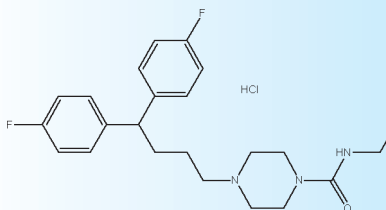
Amperozide hydrochloride

Cat. No.	Size	Price €
BN0687	5 mg	155,00

Atypical antipsychotic that displays high affinity for 5-HT₂ receptors (K_i = 26 nM) and low affinity for D₂ receptors.

Reference

1. Rauser et al. (2001) *J Pharmacol Exp Ther* 299:83



4-[4,4-Bis(4-Fluorophenyl)butyl]-N-ethyl-1-piperazinecarboxamide hydrochloride

M.W. 437.95 C₂₃H₂₉F₂N₃O · HCl
[75558-90-6] Store at +4° C
Soluble to 50 mM in Water

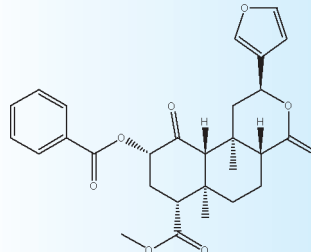
Herkinorin

Cat. No.	Size	Price €
BN0688	1 mg	70,00

Selective agonist at μ -opioid receptors derived from the naturally occurring plant product, salvinorin A (Cat. No. BN0453). Does not promote the recruitment of β -arrestin-2 to the μ -opioid receptor and does not lead to receptor internalization.

Reference

1. Harding et al. (1995) *J Med Chem* 48:4765;
2. Tidgewell et al. (2006) *J Nat Prod* 69:914;
3. Groer et al. (2007) *Mol Pharmacol* 71:549;
4. Xu et al. (2007) *Synapse* 61:166;
5. Holden et al. (2007) *Bioorg Med Chem Lett* Sept 17:6111



(2S,4aR,6aR,7R,9S,10aS,10bR)-Methyl 9-(benzoyloxy)-2-(furan-3-yl)-dodecahydro-6a,10b-dimethyl-4,10-dioxo-1H-benzo[f]isochromene-7-carboxylate

M.W. 494.53 C₂₈H₃₀O₈
Desiccate at +4° C
Soluble to 100 mM in DMSO

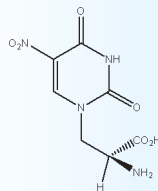
(S)-5-Nitrowillardiine

Cat.No.	Size	Price €
BN0689	10 mg	110,00

Broad spectrum agonist for kainate and AMPA receptors with no activity at NMDA or mGlu receptors.

Reference

1. Wong et al. (1994) *J Neuroscience* 14:3881;
2. Jane et al (1997) *J Med Chem* 40:3645



(S)-2-Amino-3-(3,4-dihydro-5-nitro-2,4-dioxypyrimidin-1(2H)-yl)propanoic acid

M.W. 244.16 $C_7H_8N_4O_6$

Desiccate at +4° C

Soluble to 50 mM in 1 eq. NaOH (keep solution frozen for up to 1 week)

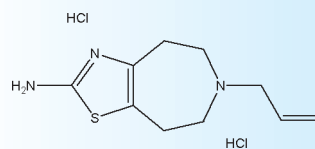
B-HT 920 dihydrochloride

Cat.No.	Size	Price €
BN0690	10 mg	85,00

α_2 -adrenoceptor agonist, dopamine D₂ receptor agonist and 5-HT₃ receptor antagonist. Displays antiparkinsonian activity.

Reference

1. Robertson et al. (1993) *J Pharmacol Exp Ther* 264:1344;
2. Nishio et al. (1996) *Gen Pharmacol* 27:779;
3. Ricci and Taira (1999) *Gen Pharmacol* 32:29;
4. Gobert et al. (2003) *J Pharmacol Exp Ther* 305:338



5,6,7,8-Tetrahydro-6-(2-propen-1-yl)-4H-thiazolo[4,5-d]azepin-2-amine dihydrochloride; Talipexole

M.W. 282.23 $C_{10}H_{15}N_3S \cdot 2HCl$

[36085-73-1] Desiccate at RT

Soluble to 100 mM in water and to 100 mM in DMSO

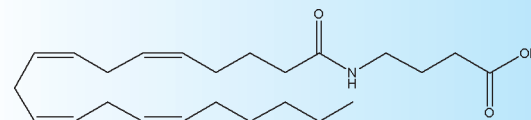
N-ArachidonoylGABA

Cat.No.	Size	Price €
BN0691	5 mg	75,00

Arachidonoyl amino acid that inhibits pain *in vivo*. It has been isolated and characterized from bovine brain. It has not been fully characterized to date.

Reference

1. Huang et al. (2001) *J Biol Chem* 276:42639;
2. El Fangour et al. (2003) *Bioorg Med Chem Lett* 13:1977



4-[[[(5Z,8Z,11Z,14Z)-1-oxo-5,8,11,14-eicosatetraenyl]amino]butanoic acid; NAGABA

M.W. 389.57 $C_{24}H_{39}NO_3$

[128201-89-8] Desiccate at -20° C

Soluble in ethanol or DMSO

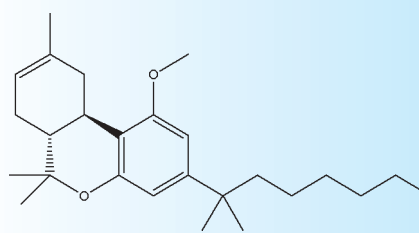
L-759,633

Cat.No.	Size	Price €
BN0692	10 mg	106,00

A high-affinity, selective cannabinoid CB₂ receptor agonist with K_i values of 6.4 and 1043 nM for cannabinoid CB₂ and CB₁ receptors, respectively. It inhibits forskolin-stimulated cAMP production in CHO cells transfected with CB₂ or CB₁ receptors with IC₅₀ values of 8.1 nM and 10 μM, respectively.

Reference

1. Ross et al. (1999) *Br J Pharmacol* 126:665



(6aR,10aR)-3-(1,1-Dimethylheptyl)-6a,7,10,10a-tetrahydro-1-methoxy-6,6,9-trimethyl-6H-dibenzo[b,d]pyran

M.W. 384.59 $C_{26}H_{40}O_2$

[174627-50-0] Desiccate at -20° C

Soluble in ethanol or DMSO

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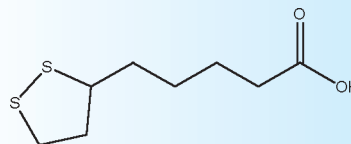
Lipoic acid

Cat.No.	Size	Price €
BN0693	100 mg	35,00

Antioxidant that can act as a direct radical scavenger or as a metal chelator. Also a coenzyme needed for the activity of enzyme complexes such as those of pyruvate dehydrogenase and glycine decarboxylase. Exogenous thioctic acid is reduced intracellularly by two or more enzymes. The reduced form then influences a number of cell processes by direct radical scavenging, recycling of other antioxidants, increasing glutathione synthesis, and modulating transcription factor activity particularly that of NF- κ B. Recently, it is discussed as a novel treatment for Alzheimer's disease and related dementias.

Reference

1. Patel and Hong (1998) *Methods Mol Biol* 108:337;
2. van der Goes et al. (1998) *J Neuroimmunol* 92:67;
3. Packer (1998) *Drug Metab Rev* 30:245;
4. Holmquist et al. (2007) *Pharmacol Ther* 2007 113:154



1,2-Dithiolane-3-pentanoic acid; DL- α -Lipoic acid; Thioctic acid

M.W. 206.33 $C_8H_{14}O_2S_2$

[1077-28-7] Desiccate at -20° C

Soluble to 30 mg/ml in DMSO or to 30 mg/ml in ethanol

Caloxin 2A1

Cat.No.	Size	Price €
BP0357	500 μ g	77,00

Plasma membrane Ca^{2+} ATPase (PMCA) inhibitor. It has been reported to inhibit PMCA activity by interacting with the second extracellular loop on the pump.

Reference

1. Chaudhary et al. (2001) *AJP Cell Phys* 280:C1027

H-Val-Ser-Asn-Ser-Asn-Trp-Pro-Ser-Phe-
Pro-Ser-Ser-Gly-Gly-Gly-NH₂

M.W. 1478.52 $C_{64}H_{91}N_{19}O_{22}$

Desiccate at -20° C

Soluble in water

Conantokin G

Cat.No.	Size	Price €
BP0358	500 μ g	225,00

A 17-amino-acid N-methyl-D-aspartate (NMDA) antagonist. This antagonism has been attributed to a potent non-competitive inhibition of polyamine responses at the NMDA receptor complex. It is isolated from the venom of *Conus geographus* and it belongs to a unique family of γ -carboxy glutamic acid-containing (Gla) Conus peptides.

Reference

1. Hammerland et al. (1992) *Eu J Pharmacol* 226:239

H-Gly-Glu-Gla-Gla-Leu-Gln-Gla-Asn-Gln-Gla-
Leu-Ile-Arg-Gla-Lys-Ser-Asn-NH₂

M.W. 2264.1 $C_{88}H_{138}N_{26}O$

[93438-65-4] Desiccate at -20° C

Soluble in water

AAP10

Cat.No.	Size	Price €
BP0359	1 mg	120,00

Antiarrhythmic peptide that can increase gap junctional intercellular conductance. It is capable of abbreviating the QT interval, reducing TDR, and suppressing TdP in a rabbit LQT3 model probably via its effect by preventing dephosphorylation of Cx43.

Reference

1. Ren et al. (2006) *Zhonghua Xin Xue Guan Bing Za Zhi* 34:825;
2. Herve and Dhein (2006) *Adv Cardiol* 42:107;
3. Muller et al. (2007) *Naunyn Schmiedeberg's Arch Pharmacol* 356:76

H-Gly-Ala-Gly-Hyp-Pro-Tyr-NH₂

M.W. 575.61 $C_{26}H_{37}N_7O_8$

Desiccate at -20° C

Soluble in water

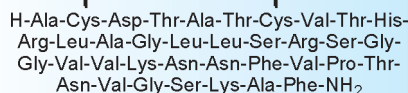
Calcitonin Gene Related peptide (human)

Cat.No.	Size	Price €
BP0362	500 µg	175,00

Endogenous neuropeptide. In the CNS, CGRP acts as a neurotransmitter that is released from a subset of small sensory neurons that transmit pain information. In the circulation, CGRP is one of the most potent vasodilators known and may function as a regulator of blood flow. When administered systemically, CGRP causes hypotension in several species, including humans.

Reference

1. Morris et al. (1984) *Nature* 308:746;
2. Brain et al. (1985) *Nature* 313:54;
3. Poyner (1995) *TIPS* 16:424;
4. Salim et al. (1998) *Br J Pharmacol* 125:277;
5. Nakamura et al. (1998) *Brain Res* 807:203;
6. Hay et al. (2004) *Peptides* 25:2019



α -CGRP (human); CGRP-I (human)

M.W. 3789.36 C₁₆₃H₂₆₇N₅₁O₄₉S₂
[90954-53-3] Desiccate at -20° C
Soluble in water

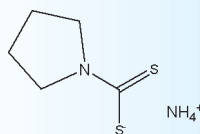
Ammonium pyrrolidinedithiocarbamate

Cat.No.	Size	Price €
BS0233	1 g	39,00

Prevents induction of nitric oxide synthetase by inhibiting translation of NOS mRNA; induces apoptosis in rat smooth muscle cells and inhibits apoptosis in leukemia HL-60 cells.

Reference

1. Sherman et al. (1993) *Biochem Biophys Res Commun* 191:1301



APDC; PDC; PDC

M.W. 164.29 C₅H₁₂N₂S₂
[5108-96-3] Store at +4° C
Soluble in water

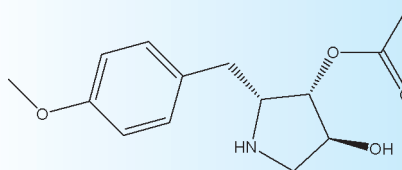
Anisomycin

Cat.No.	Size	Price €
BS0234	10 mg	55,00

Potent Jun-NH₂ terminal kinase (JNK) agonist. Activates mitogen-activated protein (MAP) kinases (JNK/SAPK and p38/RK). Acts by inhibiting peptidyl transferase activity in eukaryote ribosomes. Reported to induce apoptosis in a variety of cells including promyelocytic leukemia cells, Jurkat cells, ventricular myocytes, and colon adenocarcinoma cells. Initiates intracellular signals and immediate early gene induction. Antiprotozoal agent and antibiotic isolated from *Streptomyces griseolus*.

Reference

1. Hoffman et al. (1995) *J Eukaryot Microbiol* 42:293;
2. Barros et al. (1997) *J Physiol* 504:517;
3. Liao et al. (1997) *J Biol Chem* 272:17565;
4. Polverino and Patterson (1997) *J Biol Chem* 272:7013;
5. Faris et al. (1998) *J Immunol* 160:134;
6. Barancik et al. (1999) *J Cardiovasc Pharmacol* 34:182



(2R,3S,4S)-2-(4-Methoxybenzyl)-3,4-pyrrolidinediol-3-acetate; Flagecidin

M.W. 265.31 C₁₆H₁₉N₄O₄
[22862-76-6] Desiccate at +4° C
Soluble to 100 mM in ethanol or to 100 mM in DMSO

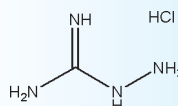
Aminoguanidine hydrochloride

Cat.No.	Size	Price €
BS0236	100 mg	49,00

Irreversible inhibitor of iNOS. Displays some selectivity over eNOS and nNOS.

Reference

1. Griffiths et al. (1993) *Br J Pharmacol* 110:963;
2. Laszlo et al. (1995) *Eur J Pharmacol* 272:169;
3. Moore and Handy (1997) *TIPS* 18:204



M.W. 110.55 CH₆N₄.HCl
[1937-19-5] Store at RT
Soluble to 100 mM in water

Receptor membranes and cell line membranes

Receptor	Sub-Type	Species	Membranes	Cell Line
Adrenergic 1α	ADRA1A	human		A667
Angiotensin	AGTR1	human		A628
Cannabinoid	CB1	human	A317	A617
	CB2	human	A318	
CGRP	Non-recomb	human	A216	
Free Fatty Acid	GPR40	human		A651
	GPR41	human		A653
	GPR43	human		A652
	GPR120	human		A658
Galanin	Non-recomb	human	A201	
Gα16	Cell line	human		A670
GIP	GIP	human	A325	
GPR103	GPR103	human		A646
GPR119	GPR119	human		A633
Histamine	H1	human		Soon
Lysophospholipid	Edg1	human	A323	A623
	Edg2	human	A324	
	GPR23	human		A626
Mas-related	Mrg-X1	human		A642
	Mrg-X2	human		A635
Muscarinic	M1	human	A311	
	M2	human	A312	
	M3	human	A313	
	M4	human	A314	
	M5	human	A315	
N-Formyl Peptide	FPR1	human		A644
	FPRL1	human	A121	A621
Prokineticin	PKR2	human		A629
Protease-Activated	PAR2	human		Soon
Relaxin	RXFP4	human	A345	A645
Serotonin	5HT2b	human		Soon
	5HT2b	mouse		Soon
	5HT2c	human		Soon
Somatostatin	SST4	human	A138	A638
	SST5	human	A139	A639
Thromboxane	TBXA2R	human	A127	A627
Vasopressin	V1a	human	A149	A649
	V1b	human	A150	A650
	V2	human	A141	A641

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Line Construction,
Complete Cell
Culture Services,
Custom Profiling,
SNP Discovery

The Receptor Membran Preparations are sufficient for approx. 400 assays.
 2008 Pricing
 Please ask for rebates when ordering more than 5 vials!

Control & Cell Membranes

CHO-K1 Cell Membranes	A210
NG108 Cell Membranes	A208
SH-Sy5y Cell Membranes	A209
THP-1 Cell Membranes	A202

Rat Brain Membranes

Forebrain	A501
Midbrain	A502
Hindbrain	A503
Cerebellum	A504
Hippocampus	A505

Overview

Product Line	Price €
All cell lines	enquire
All membranes	450,00 / vial
Rat brain (all A500s series)	230,00 / vial

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