

Neurotoxicity

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Neurotoxicity occurs when the exposure to natural or manmade toxic substances, which are called neurotoxins, alters the normal activity of the nervous system. This can eventually disrupt or even kill neurons, key cells that transmit and process signals in the brain and other parts of the nervous system. Neurotoxicity can result from exposure to substances used in chemotherapy, radiation treatment, drug therapies and organ transplants, as well as exposure to heavy metals such as lead and mercury, certain foods and food additives, pesticides, industrial and/or cleaning solvents, cosmetics, and some naturally occurring substances. Symptoms may appear immediately after exposure or be delayed. They may include limb weakness or numbness, loss of memory, vision, and/or intellect, headache, cognitive and behavioral problems and sexual dysfunction. Individuals with certain disorders may be especially vulnerable to neurotoxins. The name implies the role of a neurotoxin although the term 'neurotoxic' may be used more loosely to describe states that are known to cause physical brain damage but where no obvious neurotoxin has been identified. The term neurotoxic is used to describe a substance, condition or state that damages the nervous system and/or brain, usually by killing neurons. The term is generally used to describe a condition or substance that has been shown to result in observable physical damage. The presence of neurocognitive deficits alone is not usually considered sufficient evidence of neurotoxicity, as many substances exist which may impair neurocognitive performance without resulting in the death of neurons. This may be due to the direct action of the substance, with the impairment and neurocognitive deficits being temporary, and resolving when the substance is metabolised from the body. In some cases the level or exposure-time may be critical, with some substances only becoming neurotoxic in certain doses or time periods. ([From the Wikipedia article Neurotoxicity](#).)

Recent Publications on Neurotoxicity:



- [Abeta\(31-35\)-induced neuronal apoptosis is mediated by JNK-dependent extrinsic apoptosis pathway.](#)
Objective To investigate whether JNK-caspase-dependent apoptotic pathway... 21st November, 2009
Department of Pathology, Department of Physiology, Shanxi Medical- Neurosci Bull. 2009 Dec;25(6):361-366.
- [Effects of caffeic acid, rofecoxib, and their combination against quinolinic acid-induced behavioral alterations and disruption in glutathione redox status.](#)
Objective The neuroprotective roles of cyclooxygenase (COX) and... 21st November, 2009
Pharmacology Division, University Institute of Pharmaceutical Sciences,- Neurosci Bull. 2009 Dec;25(6):343-352.
- [Environmental risk factors for temporal lobe epilepsy - Is prenatal exposure to the marine algal neurotoxin domoic acid a potentially preventable cause?](#)
Temporal lobe epilepsy with hippocampal sclerosis (TLE-HS) is one of the... 21st November, 2009
Queensland Health Forensic and Scientific Services, 39 Kessels Road,- Med Hypotheses. 2009 Nov 17. ([DOI Direct Link](#))

- [Lead inhibits in vitro creatine kinase and pyruvate kinase activity in brain cortex of rats.](#)
*Lead intoxication is a serious occupational disease that constitutes a...*21st November, 2009
Departamento de Bioquimica, Instituto de Ciencias Basicas da Saude,- Toxicol In Vitro. 2009 Nov 16. ([DOI Direct Link](#))
- [A transcriptome analysis identifies molecular effectors of unconjugated bilirubin in human neuroblastoma SH-SY5Y cells.](#)
*ABSTRACT: BACKGROUND: The deposition of unconjugated bilirubin (UCB) in...*21st November, 2009
- BMC Genomics. 2009 Nov 19;10(1):543. ([DOI Direct Link](#))
- [Hydroxylated PCB induces Ca\(2+\) oscillations and alterations of membrane potential in cultured cortical cells.](#)
*Polychlorinated biphenyls (PCBs) are known as environmental pollutants...*20th November, 2009
Department of Integrative Physiology, Gunma University Graduate School of- J Appl Toxicol. 2009 Nov 18. ([DOI Direct Link](#))
- [Neuroprotective and Neurotoxic Effects of Nicotine.](#)
*The interest in the action of nicotine in the central nervous system (CNS)...*20th November, 2009
Rheinische Kliniken Dusseldorf, Klinik und Poliklinik fur Psychiatrie und- Pharmacopsychiatrie. 2009 Nov;42(6):255-265. Epub 2009 Nov 18. ([DOI Direct Link](#))
- [Neuronal Nitric Oxide Synthase is a Key Factor in Doxorubicin-Induced Toxicity to Rat-Isolated Cortical Neurons.](#)
*Doxorubicin (DOX) is neurotoxic to serum-free cultures of rat cortical...*20th November, 2009
REQUIMTE, Faculty of Pharmacy, Toxicology Department, University of Porto,- Neurotox Res. 2009 Nov 19. ([DOI Direct Link](#))
- [Generation of soluble oligomeric beta-amyloid species via copper catalyzed oxidation with implications for Alzheimer's disease: A DFT study.](#)
*A mechanism for the oxidation of a dimeric beta-amyloid copper ion complex...*20th November, 2009
Physical Chemistry, Royal Institute of Technology, 100 44, Stockholm,- J Mol Model. 2009 Nov 20. ([DOI Direct Link](#))
- [Small temperature variations alter edaravone-induced neuroprotection of cortical cultures exposed to prolonged hypoxic episodes.](#)
*BACKGROUND: /st> Edaravone, a free radical scavenger, has been shown to be...*20th November, 2009
Department of Anaesthesiology and Intensive Care Medicine, Graduate School- Br J Anaesth. 2009 Nov 18. ([DOI Direct Link](#))
- [Oxaliplatin-induced loss of phosphorylated heavy neurofilament subunit neuronal immunoreactivity in rat DRG tissue.](#)
*ABSTRACT: BACKGROUND: Oxaliplatin and related chemotherapeutic drugs cause...*20th November, 2009
- Mol Pain. 2009 Nov 18;5(1):66. ([DOI Direct Link](#))
- [Influence of GSTP1 I105V polymorphism on cumulative neuropathy and outcome of FOLFOX-4 treatment in Asian patients with colorectal carcinoma.](#)
*Glutathione S-transferase P1 (GSTP1) participates in detoxification of...*20th November, 2009
National Yang-Ming University School of Medicine, Taipei, Taiwan.- Cancer Sci. 2009 Oct 28. ([DOI Direct Link](#))
- [Protection in Glutamate-Induced Neurotoxicity by Imidazoline Receptor Agonist Moxonidine.](#)
*In the present study we investigated the effects of mixed imidazoline-1...*20th November, 2009
Department of Pharmacology, Tbilisi State Medical University, Tbilisi,- Int J Neurosci. 2009;119(10):1705-1717.
- [Dantrolene Exerts Protective Activity in Double and Triple Combination with Nimodipine, Ruthenium Red and Basilene Blue in Bilirubin-Induced Neurotoxicity in Cell Culture of Rats.](#)
*In the present study, dantrolene, nimodipine, basilen blue, and ruthenium...*20th November, 2009
Abant Izzet Baysal University, Izzet Baysal Medical Faculty, Department of- Int J Neurosci. 2009;119(10):1602-1614.

- [Neuroprotective Effects of Polysaccharides from Wolfberry, the Fruits of Lycium barbarum, Against Homocysteine-induced Toxicity in Rat Cortical Neurons.](#)
Previous clinical and epidemiological studies have suggested that elevated... 19th November, 2009
 Laboratory of Neurodegenerative Diseases, Department of Anatomy, LKS- J Alzheimers Dis. 2009 Nov 17. ([DOI Direct Link](#))

BioNews Results for Neurotoxicity

- [FosB Null Mutant Mice Show Enhanced Methamphetamine Neurotoxicity: Potential Involvement of FosB in Intracellular Feedback Signaling and Astroglial Function](#)
Neuropsychopharmacology: Nov 5 2009 5:03AM Matching: neurotoxicity
- [Developmental Neurotoxicity of Pyrethroid Insecticides in Zebrafish Embryos](#)
Toxicological Sciences: Oct 27 2009 10:29PM Matching: neurotoxicity

Neurotoxicity Patents:



- 7588766- [Treatment of amyloidogenic disease](#)
- 7598256- [Pyrrolo \[2,3-d\] pyrimidine and their use as purinergic receptor antagonists](#)
- 7598268- [Quinolinone derivatives](#)
- 7598269- [Methods and compositions for treating amyloid-related diseases](#)
- 7601703- [Enzyme catalyzed therapeutic agents](#)
- 7601719- [Compounds, methods and pharmaceutical compositions for inhibiting PARP](#)
- 7601755- [Process for treating water](#)
- 7601823- [Nucleic acid inhibitors of glutamate receptors](#)
- 7601854- [Diterpenes from the fruiting body of Antrodia camphorata and pharmaceutical compositions thereof](#)
- 7605133- [Isolated peptides to treat alpha-synuclein diseases](#)
- 7605168- [PDE4B inhibitors](#)
- 7598049- [Methods for diagnosis of Alzheimer's Disease in blood samples](#)
- 7595331- [N-and O-substituted 4-\[2-\(diphenylmethoxy\)-ethyl\]-1-\[\(phenyl\)methyl\]piperidine analogs and methods of treating CNS disorders therewith](#)
- 7595297- [Method of reducing injury to mammalian cells](#)
- 7588911- [Assays for detecting inhibitors of binding between COX-2 and PDZ proteins](#)
- 7589066- [Potent and specific immunoproteasome inhibitors](#)
- 7589083- [Compounds and compositions to control abnormal cell growth](#)
- 7589097- [Triazol\[4,5-d\] pyrimidine derivatives and their use as purinergic receptor antagonists](#)
- 7589111- [C10 cyclopentyl ester substituted taxanes](#)
- 7592304- [Metal-binding compounds and uses therefor](#)
- 7592326- [Method for stimulating the immune, inflammatory or neuroprotective response](#)
- 7592330- [Methods and compositions for preserving the viability of photoreceptor cells](#)
- 7592360- [3-fluoro-piperidines as NMDA/NR2B antagonists](#)
- 7595159- [Prediction of Parkinson's disease using gene expression levels of peripheral blood samples](#)

- 7605171- [\(3,4-disubstituted\)propanoic carboxylates as S1P \(Edg\) receptor agonists](#)
- 7605265- [Heterodimers and methods of using them](#)
- 7612175- [Scavenger receptor](#)
- 7615361- [Toxicity screening methods](#)
- 7615383- [Methods for treating neuropathy by agonist anti-trk-C monoclonal antibodies](#)
- 7618634- [Neurotoxic oligomers](#)
- 7618793- [Identifying agents for decreasing cellular toxicity associated with huntingin polypeptide](#)
- 7618816- [Metal-binding therapeutic peptides](#)
- 7618961- [Inhibitors of 11-beta-hydroxy steroid dehydrogenase type 1](#)
- 7618993- [Compounds](#)
- 7619005- [Methods for treating cognitive impairment in humans with Multiple Sclerosis](#)
- 7619066- [IL-1ra variants](#)
- 7612174- [Scavenger receptor](#)
- 7612086- [JNK inhibitors](#)
- 7612071- [Compositions and methods employing aminopterin](#)
- 7605289- [Benzamide derivatives and uses related thereto](#)
- 7608412- [P62 as a diagnostic tool for alzheimer's disease](#)
- 7608585- [Compositions for inhibition of necrosis induced by a neurotrophin](#)
- 7608586- [Soluble low-density lipoprotein receptor related protein binds directly to Alzheimer's amyloid-beta peptide](#)
- 7608749- [Monitoring APP cleavage in transgenic rodents comprising an APP Swedish mutation](#)
- 7611857- [IL-receptor like molecules and uses thereof](#)
- 7611858- [Detection of cannabinoid receptor biomarkers and uses thereof](#)
- 7611893- [Metal-binding therapeutic peptides](#)
- 7611904- [Serpentine transmembrane antigens expressed in human cancers and uses thereof](#)
- 7612065- [Inhibitors of c-JUN N-terminal kinases \(JNK\)](#)
- 7619091- [8-hydroxy quinoline derivatives](#)

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