

# The aTag project

Matthias Samwald, June 2009

DERI Galway, Ireland

Konrad Lorenz Institute for Evolution and Cognition Research, Austria

# <a>Tag

aTag = 'associative tag'

<http://hcls.deri.org/atag/>

Developed by Matthias Samwald and Holger Stenzhorn

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Display AbstractPlus Show 20

All: 1 Review: 0

1: [Neuroscience](#). 2001;105(3):663-9.

**Huperzine A, a nootropic alkaloid, inhibits N-methyl dissociated hippocampal neurons.**

[Zhang JM](#), [Hu GY](#).

State Key Laboratory of Drug Research, Shanghai Institute for Biological Sciences, Chinese Academy of Sciences, 2 China.

Huperzine A, a nootropic alkaloid isolated from a Chinese plant, is considered one of the most promising agents to treat Alzheimer's disease. It was found to inhibit the N-methyl-D-aspartate (NMDA) receptor-mediated addition to causing an inhibitory effect on acetylcholine release. The mechanisms underlying NMDA receptor inhibition were investigated by voltage-clamp recording in CA1 pyramidal neurons in rat hippocampus. Huperzine A reversibly inhibited the NMDA receptor-mediated current (IC<sub>50</sub>=0.92 μM, Hill coefficient=0.92), whereas it had no effect on the non-competitive inhibition by 50 μM of 3-amino-3-hydroxy-5-methyl-4-isoxazole propionate (AMPA). The IC<sub>50</sub> values of huperzine A were neither altered by 200 μM spermine (200 μM) and pH (7.4-6.7) in the external solution, nor by addition of Zn<sup>2+</sup> (5 μM) and dithiothreitol (5 mM) to the external solution. However, addition of spermine (200 μM) to the external solution caused a parallel shift to the right of the huperzine A concentration-response curve. From these we suggest that huperzine A acts as a non-competitive antagonist of the NMDA receptors, via a competitive interaction with one of the polyamine binding sites. The potential relevance of NMDA receptor antagonist activity of huperzine A to the treatment of Alzheimer's disease is discussed.

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Huperzine A, a nootropic alkaloid, inhibits N-methyl-D-aspartate-induced current in rat di...

Long-term potentiation in hippocampus of rats is enhanced by endogenous acetylcholine in a...

huperzine nmda (13)



## Some aTags about neuropharmacology etc.

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Below I have collected some interesting statements from research papers I recently stumbled upon. They are encoded as [aTags](#).

| “Huperzine A acts as a non-competitive antagonist of the NMDA receptors” aTags: [Huperzine A receptor antagonist activity](#) [NMDA receptor](#) ([Source](#)) |

| “some effects of CDP-choline could be mediated by changes in brain platelet-activating factor (PAF) levels” aTags: [Citicoline](#) [Platelet-activating factor](#) ([Source](#)) |

| “Changes in brain striatum dopamine and acetylcholine receptors induced by chronic CDP-choline treatment of aging mice” aTags: [Striatum](#) [Dopamine receptor](#) [Acetylcholine receptor](#) [Citicoline](#) ([Source](#)) |

| “changes in ERK phosphorylation in hippocampus and PFC were regulated by GABAA receptor in a learning and memory paradigm under acute restraint stress conditions” aTags: [MAPK/ERK pathway](#) [Hippocampus](#) [Stress](#) ([Source](#)) |

| “our data suggest actions of memantine beyond NMDA receptor antagonism, including stimulating effects on cholinergic signalling via muscarinic receptors” aTags: [Memantine](#) [Muscarinic acetylcholine receptor](#) ([Source](#)) |

Written by admin  
March 18th, 2009 at 8:32 pm

Posted in [Uncategorized](#)







SIDER drug side effect data - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://hcls.deri.org/atag/data/SIDER\_atags\_excerpt.html

## SIDER drug side effect data

This document/database contains information about side effects (adverse drug reactions) derived from [SIDER](#). Relevant terms are mapped to DBpedia, the OBO Disease ontology and the OBO symptom ontology. Mappings were established via shared PubChem and UMLS identifiers. SIDER entries where no mapping for drug or disease/symptom could be established were omitted.

**License:** Except as otherwise noted, this work is licensed under a [Creative Commons Attribution-Noncommercial-Share Alike 3.0 License](#). This data has been derived from a dataset by Kuhn et al. See <http://sideeffects.embl.de/download/> for further information (including information about commercial use).

**Disclaimer:** The content of this document/database is intended for educational and scientific research purposes only. It is not intended as a substitute for professional medical advice, diagnosis or treatment.

This document was generated by Matthias Samwald on 30 April 2009

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" [methadone](#) might cause [weight loss](#) . " |


" [methadone](#) might cause [urinary retention](#) . " |

" [methadone](#) might cause [palpitations](#) . " |

" [methadone](#) might cause [constipation](#) . " |

" [methadone](#) might cause [weakness](#) . " |

" [methadone](#) might cause [cardiomyopathy](#) . " |

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aTags are also generated from databases and text mining results



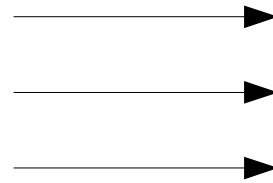
There is more than meets the eye...

RDFa + SIOC +  
good domain ontologies/terminologies (OBO,  
DBpedia, Uniprot RDF)

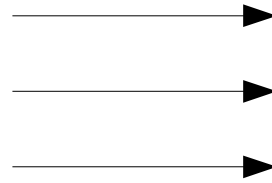
RDFa is simple to embed into existing systems

Articles, websites, biomedical databases, blogs,  
wikis, e-mails...

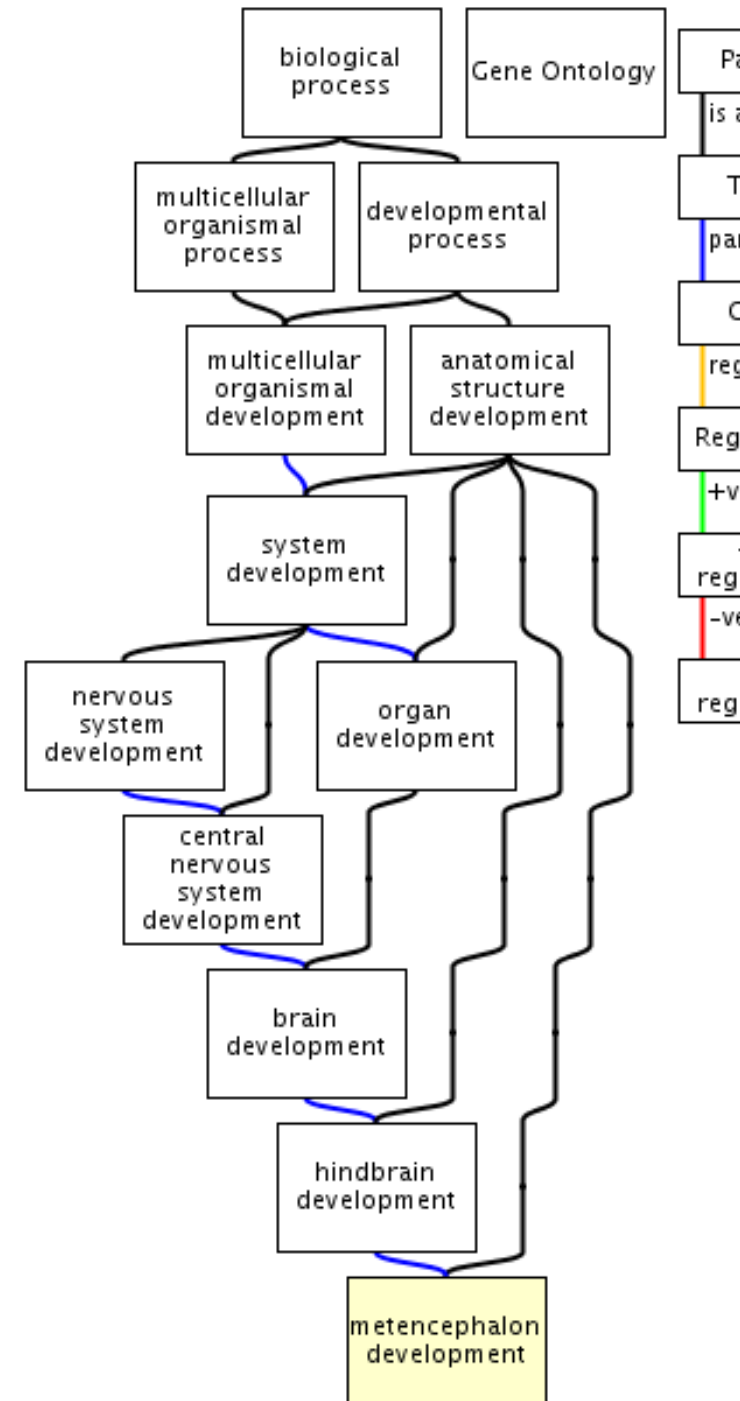
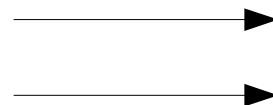
Transmitter A  
Molecular Binding  
Receptor B in  
Region C



Region C  
axonal projections  
Brain region D



Brain region D  
aversive stimuli




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[Detail](#) [List](#) [Table](#) Results 1 - 10 of 10

label	<a href="#">Memantine</a> <a href="http://en.wikipedia.org/wiki/Memantine">http://en.wikipedia.org/wiki/Memantine</a> Document Document
comment	
content	
ip_address	
atcPrefix	
width	
atcprefix	
casNumber	
drugbank	
casnumber	
abstract	
topic	
<a href="#">navigate link →</a>	
<a href="#">NMDA receptor a...</a>	
<a href="#">Muscarinic acet...</a>	
<a href="#">Memantine</a>	<a href="#">Memantine</a> <a href="http://dbpedia.org/resource/Memantine">http://dbpedia.org/resource/Memantine</a>
<a href="#">5-HT3 antagonist</a>	
<a href="#">5-HT3 receptor</a>	
subject	<a href="#">Memantine</a> <a href="http://www4.wiwiss.fu-berlin.de/flickrwrappr/photos/Memantine">http://www4.wiwiss.fu-berlin.de/flickrwrappr/photos/Memantine</a>
metabolism	
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image	

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Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://hcls.deri.org/atag/search/

# aTag explorer

Search for facts and statements on the web

**Current Selection**

(x) pref\_label:methadone

**Search**

( press ESC to close suggestions)

**Tags**


edema fever **methadone** palpitations  
urinary retention weight loss

**aTag**

true

<< < > >> displaying 1 to 5 of 5

- methadone might cause weight loss .**  
weight loss methadone
- methadone might cause urinary retention .**  
urinary retention methadone
- methadone might cause palpitations .**  
palpitations methadone
- methadone might cause fever .**  
fever methadone
- methadone might cause edema .**  
edema methadone

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keep it simple; balance 'semantics' and  
'pragmatics'; low entry barriers

do not invent yet another new vocabulary; re-use  
popular vocabularies, ontologies and linked data  
sources

make it simple to create applications and **user  
interfaces (!)** - always carry **human-readable**  
along with **machine-readable** information (and  
vice-versa)

blur distinction between 'text' and 'data'

# Synergies with work of other participants

alignment with discourse representation with  
SWAN (SWAN-SIOC project) and SALT

RDFa

data in aTag format → BioRDF, LODD

simple tools for creation and search of  
statements