

Werner Sieghart - CV

Personal Data

Date of Birth: November 26, 1945
Place of Birth: Pilsen, CSR
Nationality: Austrian

Education

1955 - 1963 Secondary school, Bundesrealgymnasium Wien X, Ettenreichgasse
1963 - 1969 Study of chemistry at the University of Vienna
1969 - 1973 Graduate study in biochemistry, Inst. f. Biochemistry, University Vienna, with Hans Tuppy
1973 January 30, Ph.D.

Career History

1973 - 1976 Post doc, Section Biochem. Psychiatry, Univ. Clinic for Psychiatry, Vienna, with Manfred Karobath
1976 - 1977 Post doc at the Dept. Pharmacology, Yale University, with Paul Greengard
1977 - 1978 Research associate, Dept. Pharmacol., Yale Univ., with Paul Greengard
1978 - 1982 University assistant, Section of Biochemical Psychiatry, Univ. Clinic for Psychiatry, Vienna
1980 - 2001 Chief, Section Biochem. Psychiatry, Univ. Clinic for Psychiatry, and of the Clinical Chemistry Lab of this Univ. Clinic, performing drug of abuse-, lithium-, hormone-, and anticonvulsant-determinations
1982 Habilitation
1988 Prof. for Neurobiochemistry
2002 - present Prof. for Biochem. & Mol. Pharmacol., and Head, Department of Biochemistry and Molecular Biology, Center for Brain Research, Medical University Vienna.

Awards

1976 Max Kade fellowship
1981 Hoechst award
1984 Sandoz award for biology
1996, 1998, 2001 Schizophrenia award, Sect. Psychiatry, Austrian Soc. Neurology & Psychiatry
2000 Research award of the AGNP and the Austr. Soc. Neurology & Psychiatry

Publications (January 2009)

221 original publications, 15 reviews, 31 proceedings, 9 invited book articles, 119 invited lectures, 2 patents

Teaching activities (PhD students of the last 5 years outside of CCHD)

Name of the student	Sex	Research topic	Title of the thesis	No of publications
Waltraud Ogris	F	neuronal	Investigation of the abundance and subunit composition of GABA _A receptors in the cerebellum of alpha1 subunit-deficient mice	5
Leila Wabnegger	F	neuronal	High yield expression and His-tag purification of recombinant GABA _A receptors using the Sf9- baculovirus expression vector system	2
Lydia Urak	F	neuronal	Identification of mutations in the genomic sequence of the GABA _A receptor beta3 subunit in patients with childhood absence epilepsy	1
Reinhard Lehner	M	neuronal	Changes in the subunit composition and abundance of GABA _A receptors in the cerebellum of mice lacking the alpha1 subunit or the stargazer protein	2
Sabine Hinterreiter	F	neuronal	Changes in the subunit expression and composition of GABA _A receptors in the hippocampus of mice lacking the Fmr1 gene	1
Joachim Ramerstorfer	M	Neuronal ongoing	Localizing binding sites at GABA _A receptors	2 + 3 in preparation
Katharina Grote	F	Neuronal ongoing	GABA _A receptor subunit composition and changes thereof during epilepsy	Not yet
Ivan Milenkovic	M	Neuronal ongoing	Investigation of GABA _A receptor subunit expression and composition in fear and anxiety.	Not yet
Elisabeth Vogel	F	Neuronal ongoing	Electrophysiological investigation of amygdala neurons in an animal model of fear and anxiety.	Not yet, 1 in preparation
Zdravko	M	Neuronal	Identification of novel GABA _A receptor	Not yet

Varagic		ongoing	binding sites	
Stefan Radner	M	Neuronal ongoing	Large scale expression of the extracellular domain of GABA _A receptor subunits	Not yet

Externally funded national and international projects (last 5 years)

Funding organisation	project No.	Research topic of the project	Amount in k€
FWF	P15165	Identification and structure of intersubunit contact sites of GABA _A receptors (2001-2005)	168
ÖNB Jubiläumsfonds	9976	Molecular genetic investigations on childhood absence epilepsy (2003-2005)	75
FWF	P16397-B07	Structure and pharmacology of GABA _A receptors (2003-2007)	178
FWF	P17203-B02	Changes in the subunit composition of GABA _A receptors in the course of temporal lobe epilepsy (2004-2008)	255
MUV	UE10207001	CCHD (2007-2010)	147
FWF	W1205	CCHD (2007-2010)	147
FWF	S10203-B13	NFN, Limbic System Circuitries Underlying Fear and Anxiety, Subproject: GABA _A receptors and their role in fear and anxiety (2007-2010).	359
EC	HEALTH-F4-2008-202088 "Neurocypres"	Cys loop receptors: structure, function, and disease (2008-2012)	536

10 most relevant papers of the last 5 years

Ogris W, Pörtl A, Hauer B, Ernst M, Oberto A, Wulff P, Höger H, Wisden B, Sieghart W (2004) Affinity of various benzodiazepine site ligands in mice with a point mutation in the GABA_A receptor γ 2 subunit. *Biochem Pharmacol* **68**:1621-1629.

Ernst M, Bruckner S, Boesch S, Sieghart W (2005) Comparative models of GABA_A receptor extracellular and transmembrane domains: important insights in Pharmacology and function. *Mol Pharmacol* **68**:1291-1300.

Ogris W, Lehner R, Fuchs K, Furtmüller B, Höger H, Homanics GE, **Sieghart W** (2006) Investigation of the abundance and subunit composition of GABA_A receptor subtypes in the cerebellum of α 1-subunit-deficient mice. *J Neurochem* **96**:136-147.

Sarto-Jackson I, Ramerstorfer J, Ernst M, **Sieghart W** (2006) Identification of amino acid residues important for assembly of GABA_A receptor α 1 and γ 2 subunits. *J Neurochem* **96**:983-995

Hanchar HJ, Chutsrinopkun P, Meera P, Supavilai P, **Sieghart W**, Wallner M, Olsen RW (2006) Ethanol potently and competitively inhibits binding of the alcohol antagonist Ro15-4513 to α 4/6 β 3 δ GABA_A receptors. *Proc Natl Acad Sci USA* **103**:8546-8551.

Payne HL, Donoghue PS, Connelly WMK, Hinterreiter S, Tiwari P, Ives JH, Hann V, **Sieghart W**, Lees G, Thompson CL (2006) Aberrant GABA_A receptor expression in the dentate gyrus of the epileptic mutant mouse, stargazer. *J Neurosci* **26**:8600-8608.

Sarto-Jackson I, Furtmüller R, Ernst M, Huck S, **Sieghart W** (2007) Spontaneous cross-link of mutated α 1 subunits during GABA_A receptor assembly. *J Biol Chem* **282**:4354-4363.

Wulff P, Goetz T, Leppä E, Linden AM, Renzi M, Swinny JD, Vekovischeva OY, **Sieghart W**, Somogyi P, Korpi ER, Farrant M, Wisden W (2007) From synapse to behaviour: rapid modulation of defined neuronal populations through engineered GABA_A receptors. *Nature Neurosci* **10**:923-929.

Kang SU, Fuchs K, **Sieghart W**, Lubec G (2008) Gel-based mass spectrometric analysis of recombinant GABA_A receptor subunits representing strongly hydrophobic transmembrane proteins. *J Proteome Res* **8**:3498-3506.

Olsen RW and **Sieghart W** (2008) International Union of Pharmacology. LXX. Subtypes of γ -Aminobutyric Acid A Receptors: Classification on the Basis of Subunit Composition, Pharmacology, and Function—Update. *Pharmacol Rev* **60**: 243-260.

Additional References

Sieghart W., and Karobath M. (1980) Molecular heterogeneity of benzodiazepine receptors. *Nature* **286**: 285-287.

Sieghart W: (1995) Structure and pharmacology of GABA_A receptor subtypes. *Pharmacol. Rev.* **47**, 181-234.

Jechlinger M., Pelz R., Tretter V., Klausberger T. and **Sieghart W.** (1998) Subunit composition and quantitative importance of heterooligomeric receptors: GABA-A receptors containing alpha6 subunits. *J. Neurosci.* **18**:2449-2457.

Sigel E., Baur R., Furtmueller R., Razet R., Dodd R. H., and **Sieghart W.** (2001) Differential cross talk of ROD compounds with the benzodiazepine binding site. *Mol. Pharmacol.* **59**:1470-1477.

Savic M.M, Huang S, Furtmüller R, Clayton T, Huck S, Obradovic D.I, Ugresic N.D, **Sieghart W**, Bokonjic D.R, Cook J.M. (2008) Are GABA(A) Receptors Containing alpha5 Subunits Contributing to the Sedative Properties of Benzodiazepine Site Agonists? *Neuropsychopharmacology*. **33**:332-339.;