

CURRICULUM VITAE

STEFANO VICINI

PERSONAL INFORMATION:

Office Address: Department of Physiology and Biophysics,
Georgetown University School of Medicine,
Basic Science Building, Room 225,
3900 Reservoir Road, N.W. Washington D.C. 20007
Tel 202 687-6441 office; 202 687-1567 laboratory; Fax 202 687-6441.
E-mail svicin01@georgetown.edu

EDUCATION:

(Italian University System)

DEGREE:

YEAR:

Lyceum G. Ferraris, Torino, Italy
Majors: Mathematics and Physics

Diploma

1975

Universita' degli Studi di Torino, Italy
Facolta' di Scienze MFN.
Biophysics

Doctorate

1979

PROFESSIONAL EXPERIENCE:

Research fellow at FIDIA Research Laboratory directed by Dr. Alfredo Gorio
Abano Terme, (PD) Italy.

1980

Postdoctoral visiting fellow in the late Dr. Stephen M. Schuetze laboratory
Dept. of Biological Science, Columbia University New York, N.Y.

1983-84

Research Associate at the Laboratory of Preclinical Pharmacology, National
Institute of Mental Health (NIMH), Saint Elizabeth Hospital, Washington D.C.

1985

Principal Investigator at the Fidia Georgetown Institute for the Neuroscience
lead by Prof. Erminio Costa and Research Assistant Professor in the Dept. of
Physiology and Biophysics, Georgetown University Medical School

1986-1990

P.I. at the FGIN and Assistant Professor in the Dept. of Physiology and Biophysics,
Georgetown University Medical School.

1990-1994

Associate Professor with "tenure" in the Dept. of Physiology and Biophysics,
Georgetown University Medical School.

1995-2000

Professor with "tenure" in the Dept. of Physiology and Biophysics,
Georgetown University Medical School

2000-Present

HONORS AND AWARDS:

Research Career Development Award 1993-1998 (1K04 NS-01680)
Research Development Award 1998-2003 (1K02 MH01680-01).
Excellence in Graduate Teaching Award Dept. of Pharmacology Georgetown 2000

PROFESSIONAL SOCIETY:

American Physiological Society
Society for Neuroscience
International Brain Research Organization
Biophysical Society
Society for Neurochemistry

PUBLIC SERVICE:

Ad hoc reviewer for the Journal of Neuroscience, Journal of Neurophysiology, Science, Nature, Nature Neuroscience, PNAS, Journal of Physiology, Journal of Neurochemistry, Neuroscience, European Journal of Neuroscience, Journal of Pharmacology and Experimental Therapeutics, Neuropharmacology, Molecular Pharmacology, British Journal of Pharmacology, Neuroscience Letters, Journal of Neurochemistry, Neuron.

Editorial Boards:

Neuropharmacology	2000-2006
Journal of Physiology	2001-2005
Journal of Physiology (Senior Editor)	2006-2009
Journal of Neuroscience	2004-2009

Member of the Behavioral and Neuroscience special emphasis panel
ZRG1-NLS1-01A. Study section review of Academic Research
Enhancement Awards (R15). 1993

Member of the Neuropharmacology and Neurochemistry Review Committee
NIMH/NPC Study section review of Academic Research 1996-1998

Member of the Cellular, Molecular and Developmental Neuroscience Review
Committee 4 NIH/CMDN4 Study section review of Academic Research 1998-2002

Ad hoc reviewer for other NIH and NSF study sections.

UNIVERSITY SERVICE:

Director of the Graduate Program in Physiology & Biophysics 2007-2010
GUMC Research Committee 2006-2009
Member of the committee on Faculty (faculty promotion & tenure) 1997-1999, 2004-2007.

Member of the Student Advisory Committee of the Interdisciplinary Program in Neuroscience 2000-2004
Research Integrity Committee 1995-2005. Chair 1999-2004.
Interviews to the applicants to the Medical School.

Thesis defense committee: *Dept of Biology*, Jim Dougherty, Jamuna Subramaniam, Epolia Ramadan; *Dept. of Biochemistry and Cell Biology*, Marco Favaron; *Dept of Pharmacology*, Jean Marc Mienville, Charles T. Livsey, Anton Dunah; Bjorn Knollman, Gavin Rumbaugh, Maureen Cruz, *Dept of Physiology and Biophysics*, Yuang Chen, Donna McPhie, Wei Jian Zhu, Richard Frey, Jon Poling, Kathleen Ward, Dimitris Emfietzoglou, Jin Hong Li, *Interdisciplinary Program in Neuroscience*, Byeung Kim., Jill Turner, Esther Krook Magnusson, Craig Dietrich, Brent Richards, Pavel Ortinski, Stuart Washington, Scott Paluszkiwicz Kristen Ade, Li Feng, Melissa Herman, Mary Adedoyin, Brian Wolfe, Brandon Martin.

INVITEDLECTURES:

XIVth Collegium Internationale Neuro-Psycopharmacologicum. Puerto Rico USA. (1986).
International Wenner-Gren Center Symposium, Stockholm, Sweden, (1987).
5th Capo Boi Conference on Neuroscience Capo Boi Italy (1987).
XVIth Collegium Internationale Neuro-Psycopharmacologicum. Munich Germany. (1988).
Marine Biological Laboratory - Woods-Hole MA (1988).
International symposium on Amino acids, Moscow, Russia. (1988)
National Institute of Child Health & Development (1989).
International Meeting on Excitatory Amino Acids, Montegrotto, Italy (1990).
International School of Neuroscience Praglia Italy (1990).
Third IBRO World Congress of Neuroscience Montreal Canada (1991).
Neurosteroids and Brain Function Symposium New Orleans LA (1991).
International Symposium Allosteric Modulation of Amino Acid Receptors: Therapeutic Implications, Royal Society, London (1991).
International Conference on Excitatory amino acids. Yosemite, CA (1992).
CNRS Institut Alfred Fessard, Gif-sur-Yvette, France (1993).
National Institute of Child Health & Development NIH Bethesda MD (1994).
Johns Hopkins Medical School, Dept of Physiology (1994)
University of Maryland. Dept. of Pharmacology (1995).
Howard University, Dept of Physiology Washington DC (1995).
University of Minnesota Dept of Physiology and Neurocience (1996).
University of California Los Angeles. Brain Research Institute (1996).
University of Chicago Dept of Physiology (1997).
Winter Conference on Brain Research (1997).
University of Wisconsin Dept. of Neuroscience (1997).
Howard University, Dept of Pharmacology Washington DC (1997).
Winter Conference on Brain Research (1998) (session organizer)
University of Connecticut, Dept of Neuroscience Storrs CT (1998).
SUNY Dept of Physiology Brooklyn NY (1998).
Winter Conference on Brain Research (1999).
Third International Meeting on Metabotropic Glutamate Receptors. Taormina Italy (1999).

Brown University Dept of Neuroscience (2000)
Medical College of OHIO, Toledo OH (2000)
Ohio State University Dept of Neuroscience Columbus OH (2000)
Howard University, Dept of Physiology Washington DC (2000)
University of Pittsburgh, Dept of Neuroscience (2001)
George Washington University, Dept of Anatomy (2001)
Gordon Conference on Excitatory Amino Acids, Florence, Italy (2001)
Duke University, Dept. of Neurology Durham NC (2002)
Medical College of Virginia, Dept of Anatomy Richmond VA (2002)
Italian Psychiatry Association, Rome Italy, (2002)
SUNY Dept of Physiology & Pharmacology (2003)
Northwestern University Dept of Physiology (2003)
Molecular mechanisms at the Synapse StMichaels MD (2004)
Howard University Dept of Physiology (2004)
University of Dundee Dept of Neurobiology and Physiology (2004)
Michigan State University, East Lansing Michigan (2004)
Winter Brain Research Conference Breckenridge Colorado (2005)
Gordon Conference on Inhibitory Interneurons New Hampshire (2005)
University of Notre Dame, Indiana (2005)
Dept of Neurology Georgetown University Grand Round (2005)
Medical College of Virginia, Dept of Phamacology Richmond VA (2006)
Dept of Neurology Georgetown University Grand Round (2006)
Rudger University, New Jersey (2006)
Dept of Physiology Georgetown University (2006)
Dept of Neurology Georgetown University Grand Round (2006)
Winter Brain Research Conference Snowmass Colorado (2007)
Dept of Neurology Georgetown University Grand Round (2007)
University of Illinois at Chicago Dept Psychiatry (2007)
Gordon Conference on Inhibitory Interneurons Maine (2007)
University of Rome "La Sapienza", Rome Italy (2007)
Chinese Academy of Science Shanghai, China (2007)
Zeijian University, Hangzhou, China (2007)
Experimental Biology Meeting San Diego, California (2008)
Karolinska Institute, Stockholm, Sweden (2008)
Boston University, Boston, MA (2008)
Scuola Normale Superiore, Pisa Italy (2008)
Society for Neuroscience (2008)
Dept of Physiology University of Pennsylvania, Philadelphia (2008)
Dept of Neuroscience University of Pittsburgh (2008)
Gordon Conference on Inhibitory Interneurons Maine (2009)
Society for Neuroscience Chicago (2009)
Winter Brain Research Conference Breckenridge Colorado (2010)
Dept of Neuroscience Jefferson University, Philadelphia.PA (2010)
Dept of Neuroscience University of Torino, Italy (2010)
Dept of Neuroscience University of Padova, Italy (2010)
Killian Lecture McGill university, Montral Canada (2010)

Dept of Physiology University of Pennsylvania, Philadelphia (2010)

TEACHING ACTIVITY:

Medical School Students:

Human Physiology course for medical students (#P BIO-502).	1987-2007
Fundamentals of Human Physiology (#P BIO-501).	2000-present
Neurobiology course for medical students (#C BIO-512).	1992-2000
Neurobiology course for medical students (#NSCI-512).	2002-2007
Facilitator in the Problem Based Learning sessions in Physiology.	1994-1999
Molecular Cellular Physiology Module IMSC-501-03	2008-present
Cardiovascular Physiology Module IMSC-513-06	2008-present

Students of the Master program in Physiology:

Lecturer at the Integrative Physiology course (#P BIO-535)	1991-03
Lecturer at the Cell and Molecular Physiology course (#P BIO-534)	1992-97

Graduate School Students:

Lecturer in the Neuroscience Survey course (#NSCI-505)	1987,2005
Instructor in the summer Neurobiology course at the Marine Biology Laboratories, WoodsHole, Massachusetts.	1987,88,89
Course director, Molecular Neurophysiology (#P BIO-547-01)	1991-2007
Course co-director, Neurobiology I (#NSCI-501)	Fall '94-97
Course director, Neurobiology I (#NSCI-501)	Fall '98-06
Intoduction to Physiology (#P BIO-584)	Fall 2005

Hospital Residents:

Lecturer to Psychiatry residents	1989, 1993
Lecturer to Pediatrics residents	1993, 1999
Lecturer to Neurology residents	2002-present

Supervision of Graduate Students:

Jean Marc Mienville, Thesis Advisor for Ph.D. in Pharmacology.	1985-1989.
Charles T. Livsey, Thesis Advisor for M.D.-Ph.D. in Pharmacology.	1990-1993.
Jon S.Poling Thesis Advisor for M.D.-Ph.D. in Physiology.	1993-1995.
Wei Jian Zhu Thesis Advisor for Ph.D. in Physiology.	1993-1995.
Jin Hong Li Thesis Advisor for Ph.D. in Physiology.	1996-1999.
Muyiwa Gbadegesin Thesis Advisor for Ph.D. in Neuroscience.	1996-1999.
Gavin Rambaugh Thesis Advisor for Ph.D. in Pharmacology.	1998-2000.
Pavel Ortinki Thesis Advisor for Ph.D. in Neuroscience.	2003-2007.
Congyi Lu Thesis Advisor for Ph.D. in Pharmacology.	2003-2007.
Kristen K Ade Thesis Advisor for Ph.D. in Neuroscience.	2005-2008
Megan Janssen Thesis Advisor for Ph.D. in Pharmacology	2007-2010
Jose Young Thesis Co-Advisor for Ph.D. in Physiology	2008-2010
Alfredo Gonzalez-Susler	2010-present
Rupa Laldanchani	2010-present

Supervision of Postdoctoral Fellows:

Mariella Bertolino, Ph.D.; Giulia Puia, Ph.D.; Ivica Ducic, M.D.; Tommaso Pizzorusso, Ph.D., Wei Jian Zhu M.D.; Jian Feng Wang, M.D.; Gabriella Stocca, Ph.D.; Lorenzo Corsi, Ph.D., Deidre O'Leary, Ph.D., Laura Borodisnki, Ph.D., Pylord Doe, M.D., Maddalena Ceccon, Ph.D, Zhanyan Fu, Ph.D., Gabriele Losi, Ph.D, Kate Prybylowski, Ph.D., Andrea Barberis, Ph.D., Stephen M. Logan, Ph.D., John Partridge, Ph.D.

SCHOLARSHIP AND RESEARCH:

Past and Present Research Grants:

Present

1) Heterogeneity of synaptic NMDA Receptors

Principal Investigator: Stefano Vicini Agency: NINDS

R01 NS047700 Period June 1, 2007 to February 28, 2012 Role P. I.

Amount: \$ 218,000 (annual direct cost).

To study functional properties and regulation of NMDA receptors during development in cerebellum and striatum.

2) GABA receptor and dopamine in striatum.

R01MH64797-06 Principal Investigator: Stefano Vicini NIH/NIMH.

Amount: \$ 250,000 (annual direct cost).

Period of Support June 2010 to May 2015.

Past

1) Cerebellar Inhibitory synapses in GABAR subunit KO mice.

Principal Investigator: Stefano Vicini NIH/NIMH

R01MH64797 Amount: \$ 200,000 (annual direct cost).

Period of Support March 2003 to February 2009 (no cost extension).

2) Heterogeneity of synaptic NMDA Receptors

Principal Investigator: Stefano Vicini Agency: NINDS

R01 NS047700-10 Period July 1, 2003 to June 30, 2007 Role P. I.

Amount: \$ 218,000 (annual direct cost).

3) Heterogeneity of synaptic NMDA Receptors.

Research Development Award

K02MH01680-01. Principal Investigator: Stefano Vicini NIH NIMH

Amount: \$77,370 (annual direct cost).

Period of support: December 1998 to November 2003

4) Brainstem nAChR subtypes and their effects on GI function.

R01 DK56920-01 Co. Investigator, 10% effort; P.I. Richard A. Gillis

Amount: \$225,000 (annual direct cost).

Period of Support January 2002 to December 2007

5) Heterogeneity of synaptic NMDA Receptors.

1 RO1MH58946-01 Principal Investigator: Stefano Vicini 30% effort.

Amount: \$ 188,958 (annual direct cost).

Period of Support April 1998 to January 2003.

6) CNS Control of Gastrointestinal Function.

2 RO1 DK29975 Co. Investigator, 10% effort, ; P.I. Richard A. Gillis

Amount: \$146, 253 (annual direct cost).

Period of Support November 1993 to November 2001

7) Heterogeneity of GABA_A receptors in cerebellar synapses.

1 RO1 NS32759-01 Principal Investigator: Stefano Vicini 30% effort.

Amount: \$130, 668 (annual direct cost). Period of Support

December 1994 to November 1999.

8) NMDA Receptors: Structure and Function.

1RO1NS36246-01-05 Co. Investigator, 10% effort, ; P.I. Barry B. Wolfe

Amount: \$ 163,670 (annual direct cost). Period of Support August 1997 July 2000.

9) Long term modifications of CNS excitatory synapses.

Research Career Development Award

Ass. # 1K04NS01680-01. Principal Investigator: Stefano Vicini Percent of Effort: 70%.

Amount: \$62,500 (annual direct cost).

Period of support: December 1993 to November 1998

10) Program project: Excitatory amino acids receptors in disorders R.A. Gillis Director

Identifying Project: Project # 3 Excitatory synapse modifications & cognitive disorders.

PO1 NS-78130. Principal Investigator: Stefano Vicini: 25 % effort.

Amount: \$69,300 (annual direct cost). Period of support: December 1990 to March 1998

PEER REVIEWED PUBLICATIONS

1) Schuetze,S.M. and S. Vicini (1984) Neonatal Denervation Inhibits the Normal Post-natal Decrease in Endplate Channel Open Time. *J. Neurosci.* **4**:2297-2302 PMID: 6090614

2) Vicini,S. and S.M. Schuetze (1985) Gating Properties of Acetylcholine Receptors at Developing Rat Endplates. *J. Neurosci.* **5**:2212-2224 PMID: 4020435

3) Schuetze, S.M., Vicini S., and Z.W. Hall (1985) Myasthenic serum selectively blocks acetylcholine receptors with long channel open time at developing rat endplates. *Proc.Natl.Acad.Sci. (USA)* **82**:2533-2537 PMID: 4020435

- 4) Guidotti,A., Ferrero,P., Santi, M.R., Alho, H., Vicini, S. and E.Costa (1985) Gamma-aminobutyric acid and chloride channels: regulation by neuropeptides. *Regulatory Peptides* **4**:172-181 PMID: 2414813
- 5) Vicini,S., Wroblewski,J.T. and E. Costa (1986) Pharmacological Modulation of GABAergic Transmission in Cultured Cerebellar Neurons. *Neuropharmacol.* **25**:207-211 PMID: 3010162
- 6) S.M. Schuetze and S.Vicini (1986) Apparent Acetylcholine Receptor Channel Conversion at Individual Rat Soleus End-plates in vitro. *J. Physiol. (London)*. **375**:153-167 PMID: 2432220
- 7) Vicini,S., Alho,H.,Costa,E.,Mienville,J.M.,Santi,M.R. and F.M. Vaccarino (1986) Modulation of γ -aminobutyric acid mediated inhibitory synaptic currents in dissociated cortical cell cultures. *Proc.Natl.Acad.Sci. (USA)* **83**:9269-9273
- 8) Vicini,S., Mienville, J.M. and E. Costa (1986) Flunitrazepam action on the GABA-Cl⁻ ionophore complex in rat cortical neurons in culture: a patch-clamp study. *Clinical Neuropharm.* **9**:395-398. PMID: 2436771
- 9) Harrison,N.L.,Vicini,S. and J.L. Barker (1987) A steroid anesthetic prolongs inhibitory post-synaptic currents in cultured rat hippocampal neurons. *J. Neurosci.* **7**:604-609 PMID: 3819824
- 10) Vicini,S., Mienville,J.M. and E. Costa (1987) Actions of benzodiazepine and betacarboline derivatives on GABA-activated Cl⁻ channels recorded from membrane patches of neonatal rat cortical neurons in culture. *J.Pharm. Exper. Ther.* **243**:1195-1201 PMID: 2447266
- 11) Mienville,J.M. and S. Vicini (1987) A pyridazinyl derivative of GAMMA-aminobutyric acid (GABA), SR 95531, is a potent antagonist of Cl⁻ channel opening regulated by GABA_A receptors. *Neuropharmacol.* **26**:779-783. PMID: 2442654
- 12) Jaramillo,F., Vicini,S. and S.M. Schuetze (1988) Embryonic acetylcholine receptors guarantee spontaneous contraction in developing rat muscle. *Nature* **335**:66-68 PMID: 3412460
- 13) Dal Toso,R.,Giorgi,O.,Soranzo,C.,Kirschner,G.,Ferrari,G., Favaron,M., Benvegna'D.,Presti,D.,Vicini,S.,Toffano,G., Azzone,G.F. and A.Leon. (1988) Development and Survival of Neurons in Dissociated Fetal Mesencephalic Serum-Free Cell Cultures: I. Effects of Cell Density and of Adult Mammalian Striatal-Derived Neurotrophic Factor (SDNF). *J.Neurosci.* **8**:733-745 PMID: 3346717
- 14) Alho,H., Ferrarese,C., Vicini,S. and F.M. Vaccarino (1988) Subset of GABAergic neurons in dissociated cell cultures of neonatal rat cerebral cortex show co-localization with specific modulator peptides. *Devel.Brain Res.* **39**:193-204 PMID: 3378169
- 15) Majewska,M.D., Mienville,J.M. and S. Vicini (1988) Neurosteroid pregnenolone-sulfate antagonizes electrophysiological responses to GABA in neurons. *Neurosci. Lett.* **90**:279-284. PMID: 3138576

- 16) Bertolino,M.,Vicini,S.,Mazzetta,J. and E.Costa (1988) Phencyclidine and glycine modulate NMDA-activated high conductance cationic channels by acting at different sites. *Neurosci. Lett.* **84**:351-355. PMID: 2451195
- 17) Bertolino,M.and S. Vicini (1988) Voltage-dependent block by strychnine of N-Methyl-D-Aspartic-acid activated cationic channels in rat cortical neurons in culture. *Mol. Pharmacol.* **34**:98-103. PMID: 2457795
- 18) Bertolino,M., Vicini S. and E.Costa (1989) Kynurenic acid inhibits the activation of kainic and N-methyl-D-aspartic acid sensitive ionotropic receptors by a different mechanism. *Neuropharmacol.* **28**:453-457. PMID: 2471112
- 19) Mienville,J.M. and S.Vicini (1989) Pregnenolone sulfate antagonizes GABA_A receptor-mediated currents via a reduction of channel opening frequency. *Brain Res.* **489**:190-194. PMID: 2472854
- 20) Puia,G.,Santi,M.R.,Vicini,S.,Pritchett,D.B.,Seeburg,P.H. and E. Costa (1989) Differences in the negative allosteric modulation of gamma-aminobutyric acid (GABA) receptors elicited by 4'-chlorodiazepam and by beta-carboline 3-carboxylate ester: a study with natural and reconstituted receptors. *Proc.Nat.Acad.Sci. (USA)* **86**:7275-7279. PMID: 2476816
- 21) Manev,H.,Favaron,M.,Vicini,S.,Guidotti,A. and E.Costa (1990) Glutamate-induced neuronal death in primary cultures of cerebellar granule cells: protection by synthetic derivatives of endogenous sphingolipids. *J.Pharm.Exper.Ther.* **251**:419-427 PMID: 1688945
- 22) Puia,G., Santi,M.R., Vicini,S., Pritchett,D.B., Purdy,R.H., Paul,S.M., Seeburg,P.H., and E. Costa (1990) Neurosteroids act on recombinant human GABA_A receptors. *Neuron* **4**:759-765 PMID: 2160838
- 23) Manev,H., Favaron,M., Vicini,S., and Guidotti,A. (1990) Ganglioside-mediated protection from glutamate-induced neuronal death. *ACTA Neurobiol. Exp.* **50**:381-393. PMID: 1983378
- 24) Mereu,G., Costa,E., Armstrong,D.M., and Vicini, S. (1991) Glutamate receptor subtypes mediate excitatory synaptic currents of dopamine neurons in midbrain slices. *J. Neurosci.* **11**: 1359-1366. PMID: 1674003
- 25) Travagli,R.A., Gillis,R.A., Rossiter,C.D., and Vicini,S. (1991) Glutamate and GABA -mediated synaptic currents in neurons of the rat dorsal motor nucleus of the vagus *Am J.Physiol.* **260**: G531-G536. PMID: 1672243
- 26) Puia,G., Vicini,S.,Seeburg,P.H., and E. Costa. (1991) Influence of recombinant GABA_A receptor subunit composition on the action of allosteric modulators of GABA-gated Cl⁻ currents. *Mol. Pharm.* **36**: 691-696 PMID: 1646944

- 27) Mereu,G., Costa,E., Livsey, C.T. and Vicini,S., (1992) Modulation of GABA-gated Cl currents in nigral neurons in slices. *Adv Biochem Psychopharmacol.* 47:179-88. PMID: 1380756
- 28) Herb,A.,Wisden,W.,Luddens,H.,Puia,G.,Vicini,S., and Seeburg,P.H. (1992) The third gamma subunit of the GABA_A receptor family *Proc.Nat.Acad.Sci. (USA)* **89**:1433-1437. PMID: 1311098
- 29) Puia,G., Ducic,I., Vicini,S. and Costa, E. (1992) Molecular mechanism of the partial allosteric modulatory effects of bretazenil at GABA_A receptor . *Proc.Nat.Acad.Sci. (USA)* **89**: 3620-3624. PMID: 1373505
- 30) Livsey C.T. and Vicini,S. (1992) Slower spontaneous excitatory synaptic currents in spiny versus aspiny hilar neurons. *Neuron* **8**:745-755. PMID: 1314622
- 31) Travagli,R.A., Gillis,R.A., and Vicini,S. (1992) Effects of Thyrotropin-releasing Hormone (TRH) on neurons in the rat dorsal motor nucleus of the vagus, in vitro *Am J.Physiol.* **263**:G508-G517. PMID: 1329553
- 32) Carmignoto,G. and Vicini,S. (1992) Activity-Dependent Decrease in NMDA Receptor Responses During Development of the Visual Cortex. *Science*, **258**:1007-1011. PMID: 1279803
- 33) Ducic,I., Puia,G. Mereu, G., Vicini,S., and Costa,E. (1993) Triazolam is more efficacious than diazepam in a broad spectrum of recombinant GABA_A receptors. *Europ.J. Pharmacol.* **244**: 29-35. PMID: 8380558
- 34) Puia,G., Ducic,I., Vicini,S., and Costa,E. (1993) Does Neurosteroid modulatory efficacy depends of GabaA Receptor Subunit Composition ? *Receptors and Channels* 1:135-142. PMID: 8081717
- 35) Trumper,L.H., Brady,G., Bagg,A., Loke,S.L., Gray,D., Wagman,R., Braziel,R., Vicini,S., Iscove,N.N, Cossman J., and Mak,T.W. (1993) Single-cell analysis of Hodgkin and Reed - Sternberg cells: molecular heterogeneity of gene expression and p53 mutations. *Blood*, 81:3097-3115. PMID: 1333268
- 36) Livsey, C.T., Costa, E., and Vicini, S. (1993) Glutamate-activated currents in outside-out patches from spiny versus aspiny hilar neurons of rat hippocampal slices. *J. Neurosci.* 13:5324-5333 PMID: 7902866
- 37) Bertolino M., Baraldi M., Parenti C., Braghiroli D., DiBella M., Vicini S. and Costa E. (1993) Modulation of AMPA/kainate receptors by analogues of diazoxide and cyclothiazide in thin slices of rat hippocampus. *Receptors and Channels* 1:267-278. PMID: 7915948
- 38) Puia,G., Costa,E., and Vicini, S. (1994) Functional Diversity of GABA-activated Cl⁻ current in Purkinje versus granule neurons in rat cerebellar slices. *Neuron* 12:117-126. PMID: 8292357

- 39) Katchman,A.N., Vicini,S., and Herskowitz,N. (1994) Mechanism of Anoxia-Induced suppression of inhibitory currents in the hippocampus. *J.Neurophysiol.* 71:1128-1138. PMID: 8201407
- 40) Santi, M.R., Vicini, S., Eldadah, B., and Neale, J.H. (1994) Analysis by polymerase chain reaction of $\alpha 1$ and $\alpha 6$ GABA_A receptor subunit mRNAs in individual cerebellar neurons after whole -cell recordings. *J. Neurochem.* 63, 2357-2360. PMID: 7964758
- 41) Ducic I, Caruncho, H.J., Zhu, W.J., Vicini,S. and E. Costa (1995) γ -aminobutyric acid gating of Cl⁻ channels in recombinant GABA_A receptors. *J.Pharm.Exper.Ther.* 272:438-445. PMID: 7815361
- 42) Zheng,T., Zhu,W.J., Puia,G., Vicini,S., Grayson,D.R., E.Costa, and Caruncho,H.J. (1995) Change in GABA_A Receptor Subunits During In Vitro Maturation of Rat Cerebellar Granule Cells. *Proc. Natl. Acad. Sci. (USA)* 91 10952-10956. PMID: 7971990
- 43) Giusti,P., Gusella,M., Lipartiti,M., Milani,D., Zhu,W.J., Vicini,S., and Manev H.. (1995) Melatonin protects primary cultures of cerebellar granule neurons form kainate but not from N-methyl-D-aspartate excitotoxicity. *Exp. Neurol.* 131:39-46. PMID: 7895810
- 44) Poling, J.S., Karanian, J.W., Salem Jr.N., and Vicini,S. (1995) Time- and voltage-dependent block of delayed rectifier potassium channels by docosahexanoic acid. *Mol. Pharm.* 47:381-390 PMID: 7870048
- 45) Wang, Y.H., Bosy,T.Z., Yasuda,R.P., GraysonD.R., Vicini,S., Pizzorusso,T., and Wolfe, B.B. (1995) Characterization of NMDA receptor subunit-specific antibodies: Distribution of NR2A and NR2B receptor subunits in rat brain and ontogenetic profile in the cerebellum. *J. Neurochem.* 65:176-183 PMID: 7790859
- 46) Zhu, W.J., Vicini, S., Harris, B.T. and Grayson D.R. (1995) NMDA-Mediated Modulation of GABA_A Receptor Function in Cerebellar Granule Neurons *J. Neurosci.* 15:7692-7701 PMID: 7472520
- 47) Zheng,T., Caruncho, H.J., Zhu,W.J., Vicini,S., Ikonomovich, Grayson,D.R., and E.Costa (1996) Chronic flumazenil alters GABA_A receptor subunits mRNA Expression, Translation product assembly and channel function in neuronal cultures. *J.Pharm.Exper.Ther.* 277:525-533. PMID: 8613963
- 48) Tia, S. Wang, J.F., Kotchabhakdi,N and Vicini, S (1996) Developmental changes of inhibitory synaptic currents in cerebellar granule neurons: role of GABA_A receptor $\alpha 6$ subunit. *J. Neurosci.* 16:3630-3640. PMID: 8642407
- 49) Zhu, W.J., Wang, J.F., Vicini, S., and Grayson D.R. (1996) $\alpha 6$ and $\gamma 2$ subunit antisense oligodeoxynucleotides alter GABA_A receptor pharmacology in cerebellar granule neurons *Mol. Pharmacol.* 50:23-33 PMID: 8700115

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