

CURRICULUM VITAE

Julie Anne Saugstad, PhD

Senior Scientist, Legacy Research Institute
Robert Stone Dow Neurobiology Laboratories, Devers Eye Institute
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Research Interests

Cellular and Molecular Neurobiology, Mechanisms of Signal Transduction, Endogenous Neuroprotection, MicroRNAs, Epigenetics

Education

- 1991 – 1996 Postdoctoral Fellowship, Vollum Institute for Advanced Biomedical Research, Oregon Health & Science University Portland, OR, (Advisor: Gary L Westbrook, MD)
- 1992 Molecular Neurobiology Course, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 1987 Immunology Course, Woods Hole Marine Biological Laboratory, Woods Hole, MA
- 1986 – 1991 Doctor of Philosophy, Biochemistry & Molecular Biology, April 1991, University of Oklahoma Health Sciences Center, Oklahoma City, OK, (Advisor: Sara L Tobin, PhD)
- 1976 – 1980 Bachelor of Science, Microbiology, May 1980, Oklahoma State University, Stillwater, OK

Research and Professional Experience

- 2010- Adjunct Associate Professor, Department of Neurology, Oregon Health & Science University, Portland, OR
- 2006 – Senior Scientist, Robert Stone Dow Neurobiology Laboratories and Devers Eye Institute, Legacy Research, Portland, OR
- 2004 – 2006 Associate Scientist, Robert Stone Dow Neurobiology Laboratories and Devers Eye Institute, Legacy Research, Portland, OR
- 2000 – 2004 Assistant Scientist, Robert Stone Dow Neurobiology Laboratories, Legacy Research, Portland, OR
- 1996 – 2000 Research Assistant Professor, Department of Pharmacology, Emory University School of Medicine, Atlanta, GA, (Mentor: P Jeffrey Conn, PhD)
- 1991 – 1996 Postdoctoral Fellowship, Vollum Institute for Advanced Biomedical Research, Oregon Health & Science University, Portland, OR
- 1986 – 1991 Graduate Assistant, Department of Biochemistry & Molecular Biology, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 1984 – 1986 Research Technician, Department of Biochemistry & Molecular Biology, University of Oklahoma Health Sciences Center, Oklahoma City, OK, (Mentor: Sara L Tobin, PhD)
- 1980 – 19/84 Research Technician, Department of Cardiovascular Biology, Oklahoma Medical Research Foundation, Oklahoma City, OK, (Mentor: Charles Esmon, PhD)

Professional Responsibilities

<u>Grant Reviewer</u>	Neurological Foundation of New Zealand	2010
	Wellcome Trust	2010
	NIH, ZRG1 MDCN-G (02) study section ad hoc	2009
	NIH, AED study section, ad hoc	2007
	Legacy Research Advisory Council	2002 – 2005
	The Alzheimer's Association	2003 – 2005

<u>Journal Reviewer</u>	<i>Editor, Frontiers in Neuroscience (Neurogenomics), Journal of Neuroscience, Journal of Cerebral Blood Flow and Metabolism, Journal of Neurochemistry, European Journal of Neuroscience, Molecular Pharmacology, Neuropharmacology, Journal of Glaucoma, Neurochemistry International, British Journal of Pharmacology, FASEB Journal, Brain Research</i>	
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<u>Invited Faculty</u>	Woods Hole Marine Biology Laboratories Neurobiology Course, Molecular Biology Section, Woods Hole, MA	2004 – 2005
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<u>Memberships</u>	Society for Neuroscience Neurotoxicity Society International Society for Cerebral Blood Flow and Metabolism	
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<u>Legacy Research</u>	Radiation Safety Committee	2002 – present
	Organizer, RS Dow Seminar Series	2001 – 2002

Personnel Supervised

<u>Current</u>	Simon Thompson, PhD Molecular Biology, Senior Research Associate Theresa Lusardi, PhD Mechanical Engineering, Senior Research Associate Ian MacDonald, BS Chemistry (Reed College 2010), Research Assistant 1	
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Past (Current Positions)

Research Associates

Carol Farr, PhD	(Retired)
Jin Dong, PhD	(Research Scientist, Genentech, South San Francisco)

Research Assistants

Seth Oliveria, BS	(MD/PhD 2008, Resident, Neurosurgery, University of Florida)
Suzanne Zeitouni, BS	(PhD 2007, Postdoctoral Fellow, Systems Biology & Translational Medicine, Texas A&M Health Science Center)
Sufang Yang, MD	(Senior Research Associate, Department of Anesthesiology & Perioperative Medicine, Oregon Health & Science University)
Jeremy Six, BS	(MBS, 2008, Keck Graduate Institute of Applied Life Sciences, Claremont)
Justin Hohn, BS,	(Water Quality Lab Coordinator and Data Manager, San Diego Coastkeeper)
Lisa Tesch, MS	(Research Associate, Cardiology Research Program, Oregon Health & Science University)

Craig Faulkner, BS	(Senior Manager, Widmer Brothers Brewing, Portland OR)
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Josie Marsh-Haffner, MD	
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Summer Students

Andrea Lauer	(BS 2004, Biology, Columbia University of New York)
Joel Spaltenstein	(BS 2005, Biology, University of Oregon)
Marissa Hanthorn	(BA 2011, Biology & Spanish, Case Western Reserve University)
Amy Vukovich	(BS 2008, Chemical Engineering, Washington University in St Louis)

Research Grant Awards

- 2010 – 2013 NINDS R01 NS064270, Title: Role for MicroRNAs in Ischemic Tolerance, Saugstad (PI), Annual Direct Costs, \$200,000
- 2010 – 2011 Legacy Foundation, Title: MicroRNA Regulation of Neuronal Death Effectors in Alzheimer's Disease, Saugstad (PI), Annual Direct Costs, \$49,000
- 2005 – 2009 NINDS R01 NS050221, Title: Neuroprotection by Novel Regulators of mGluR Signaling, Saugstad (PI), Annual Direct Costs, \$196,628
- 2006 – 2008 NINDS R21 NS054023, Title: Ubiquitin-mediated Structural Reorganization, Meller (PI), Saugstad (Co-Investigator 5%), Annual Direct Costs, \$137,500
- 2005 – 2009 NINDS R01 NS049470, Title: A Novel Cation Channel in Excitatory Neuronal Injury, Xiong (PI), Saugstad (Co-Investigator 5%), Annual Direct Costs, \$200,000
- 2004 – 2006 NINDS R01 NS047506, Title: Acid-Sensing Channels as Novel Targets for Brain Ischemia, Xiong (PI), Saugstad (Co-Investigator 5%) Annual Direct Costs, \$200,000
- 2006 – 2008 NINDS R21 NS054220, Title: Role of MicroRNAs in Ischemic Tolerance, Saugstad (PI), Annual Direct Costs, \$121,000
- 2003 – 2006 NEI R03 EY015267, Title: Role of Acid-Sensing Ion Channels in Glaucoma, Saugstad (PI), Annual Direct Costs, \$100,000
- 2004 – 2006 NIMH R21 MH066967, Title: Extracellular Modulation of Metabotropic Glutamate Receptors, Saugstad (PI), Annual Direct Costs, \$95,000
- 2005 – 2006 NINDS R21 NS050669 Title: Protein Ubiquitination Based Neuroprotection for Stroke, Meller (PI), Saugstad (Co-Investigator 5%), Annual Direct Costs, \$200,000
- 2003 – 2004 Glaucoma Foundation, Title: Role of Acid-Sensing Ion Channel 2a in Glaucoma, Saugstad (PI), Annual Direct Costs, \$35,000
- 2003 – 2004 Medical Research Foundation of Oregon, Title: Proteomic Analysis of Acid-Sensing Ion Channel 2a Signaling Complexes, Saugstad (PI) Annual Direct Costs, \$30,000
- 2002 – 2003 NIH/NINDS R21 NS42799 Title: Role of Acid-Sensing Ion Channels in Ischemia, Simon (PI), Saugstad (Co-Investigator 5%), Annual Direct Costs, \$130,000
- 2002 – 2003 Legacy Foundation, Title: Characterization of the Molecular Determinants of Acid-Sensing Ion Channels, Saugstad (PI), Annual Direct Costs, \$87,000
- 1999 – 2003 NIH/NINDS R01 MH59951, Title: Regulation of Metabotropic Glutamate Receptor Responses by RGS Proteins, Saugstad (PI), Annual Direct Costs, \$130,000
- 1998 – 2000 Alzheimer's Association, Title: Regulation of Muscarinic Acetylcholine Receptors by RGS Proteins, Saugstad (PI), Annual Direct Costs, \$30,000
- 1998 – 1999 Culpeper Foundation, Title: Regulation of Metabotropic Glutamate Receptors by RGS Proteins, Saugstad (PI), Annual Direct Costs, \$30,000
- 1992 – 1993 Medical Research Foundation of Oregon, Tartar Trust Research Award, Saugstad (PI), Annual Direct Costs, \$30,000

1992 – 1993 American Heart Association, Oregon Affiliate, Postdoctoral Fellow Award, Saugstad (PI), Annual Direct Costs, \$30,000

1992 – 1995 NIH National Research Service Award, Postdoctoral Fellow Award, Saugstad (PI) Annual Direct Costs, \$25,000

Publications (*Corresponding Author)

1. Yamanaka M, **Saugstad JA**, Hanson-Painton O, McCarthy BJ, Tobin SL (1987) Structure and expression of the *Drosophila* calmodulin gene, *Nucleic Acids Research* 15, 3335-3348, PMID: 3106931
2. Hanson-Painton O, Randolph V, **Saugstad JA**, Oh S-Y, Tobin SL (1992) Developmental expression of the *Drosophila melanogaster* calmodulin gene., *International Journal of Developmental Biology* 36, 343-352, PMID: 1280154
3. **Saugstad JA**, Kinzie JM, Mulvihill EM, Segerson TP, Westbrook GL (1994) Cloning and expression of a new member of the L-2-amino-4-phosphonobutyric acid-sensitive class of metabotropic glutamate receptors, *Molecular Pharmacology* 45, 367-372, PMID: 8145723
4. **Saugstad JA**, Segerson TP, Westbrook GL (1995) L-2-amino-3-phosphonopropionic acid competitively antagonizes metabotropic glutamate receptors 1 alpha and 5 in *Xenopus* oocytes, *European Journal of Pharmacology-Molecular Pharmacology Section* 289, 395-397, PMID: 7621916
5. Kinzie JM, **Saugstad JA**, Westbrook GL, Segerson TP (1995) Distribution of metabotropic glutamate receptor 7 messenger RNA in the developing and adult rat brain, *Neuroscience* 69, 167-176, PMID: 8637615
6. **Saugstad JA**, Segerson TP, Westbrook GL (1996) Metabotropic glutamate receptors activate G-protein-coupled inwardly rectifying potassium channels in *Xenopus* oocytes, *Journal of Neuroscience* 16, 5979-5985, PMID: 8815880
7. **Saugstad JA**, Kinzie JM, Shinohara MA, Segerson TP, Westbrook GL (1997) Cloning and expression of rat metabotropic glutamate receptor 8 reveals a distinct pharmacological profile, *Molecular Pharmacology* 51, 119-125, PMID: 9016353
8. **Saugstad JA**, Marino M, Folk JA, Hepler JR, Conn PJ (1998) RGS4 inhibits signaling by group I metabotropic glutamate receptors, *Journal of Neuroscience* 18, 905-913, PMID: 9437012
9. Xavier Z, Khawaja JL, **Saugstad JA**, Jones PG, Harnish SW, Conn PJ, Cockett MI (1999) Immunohistochemical distribution of RGS7 protein and cellular selectivity in colocalizing with Galphaq proteins in the adult rat brain, *Journal of Neurochemistry* 72, 174-184, PMID: 9886068
10. Cai Z, **Saugstad JA**, Sorensen SD, Ciombor KJ, Schaffhauser H, Hubalek F, Pohl J, Zhang C, Duvoisin RM, Conn PJ (2001) Cyclic AMP-dependent protein kinase phosphorylates group III metabotropic glutamate receptors and inhibits their function as presynaptic receptors, *Journal of Neurochemistry* 78, 756-766, PMID: 11520896, NIHMSID228526
11. **Saugstad JA***, Yang S, Pohl J, Hall RA, Conn PJ (2002) Interaction between metabotropic glutamate receptor 7 and alpha tubulin, *Journal of Neurochemistry* 80, 980-988, PMID: 11953448, NIHMSID228530
12. Sorensen SD, Macek TA, Cai Z, **Saugstad JA**, Conn PJ (2002) Dissociation of protein kinase-mediated regulation of metabotropic glutamate receptor 7 (mGluR7) interactions with calmodulin and regulation of mGluR7 function, *Molecular Pharmacology* 61, 1303-1312, PMID: 12021391, NIHMSID228530

13. Shinoda S, Schindler CK, Quan-Lan J, **Saugstad JA**, Taki W, Simon RP, Henshall DC (2003) Interaction of 14-3-3 with Bid during seizure-induced neuronal death, *Journal of Neurochemistry* 86, 460-469, PMID: 12871587
14. Farr CD, Gafken PR, Norbeck AD, Doneanu CE, Stapels MD, Barofsky DF, Minami M, **Saugstad JA*** (2004) Proteomic analysis of native metabotropic glutamate receptor 5 protein complexes reveals novel molecular constituents, *Journal of Neurochemistry* 91, 438-450, PMID: 15447677, NIHMSID128760
15. Chu XP, Zhu XM, Close N, Wemmie JA, Price MP, **Saugstad JA**, Simon RP, Welsh MJ, Xiong ZG (2004) Subunit-dependent high-affinity zinc inhibition of acid-sensing ion channels, *Journal of Neuroscience* 24, 8678-8689, PMID: 15470133, NIHMSID228528
16. **Saugstad JA***, Roberts J, Dong J, Zeitouni S, Evans RJ (2004) Analysis of the membrane topology of the acid-sensing ion channel 2a, *Journal of Biological Chemistry* 279:55514-55519, PMID: 15504740, NIHMSID228519
17. Alagarsamy S, **Saugstad JA**, Gereau IV RW, Mansuy I, Warren L, Conn PJ (2005) NMDA-induced potentiation of mGluR5 is mediated by activation of protein phosphatase 2B/calcineurin, *Neuropharmacology* 49 Supplement 1:135-145, PMID: 16005030, NIHMSID228524
18. Grey F, McShea A, Allen E, **Saugstad J**, Carrington J, Nelson J (2005) Identification and characterization of human cytomegalovirus-encoded microRNAs, *Journal of Virology* 79:12095-12099, PMID: 16140786
19. Meller R, Cameron JA, Torrey DJ, Clayton CE, Ordonez AN, Henshall DC, Minami M, Schindler CK, **Saugstad JA**, Simon RP (2006) Rapid degradation of Bim by the ubiquitin-proteasome pathway mediates short-term ischemic tolerance in cultured neurons, *Journal of Biological Chemistry* 281:7429-7436, PMID: 16431916, NIHMSID7941
20. Chu XP, Close N, **Saugstad JA**, Xiong ZG (2006) ASIC1a-specific modulation of acid-sensing ion channels in mouse cortical neurons by redox reagents, *Journal of Neuroscience* 26:5329-5339, PMID: 16707785, NIHMSID228525
21. Chai S, Li M, Lan JQ, Xiong ZG, **Saugstad JA**, Simon RP (2007) A kinase-anchoring protein 150 and calcineurin are involved in regulation of acid-sensing ion channels ASIC1a and ASIC2a, *Journal of Biological Chemistry*, 282:22668-22677, PMID: 17548344, NIHMSID228522
22. Meller R, Thompson SJ, Lusardi TA, Ordonez AN, Ashley MD, Wang W, Torrey DJ, Henshall DC, Gafken PR, **Saugstad JA**, Xiong ZG, Simon RP (2008) Ubiquitin proteasome-mediated synaptic reorganization: a novel mechanism underlying rapid ischemic tolerance, *Journal of Neuroscience* 28:50-59, PMID: 18171922, NIHMSID124499
23. Lusardi T, Farr CD, Faulkner CL, Pignataro G, Yang T, Lan JQ, Simon RP, **Saugstad JA*** (2010) Ischemic preconditioning regulates expression of microRNAs and a predicted target, MeCP2, in mouse cortex, *Journal of Cerebral Blood Flow and Metabolism*, 30(4):744-56, Epub 2009 Dec 16, PMID: 20010955, NIHMSID168715 (Selected among "Top 4 finest scientific contributions to *JCBFM* by Dr. Ulrich Dirnagl and Dr. Martin Lauritzen from 2009 to 2010)
24. Staples M, Piper C, Yang T, Li M, Stowell C, Xiong ZG, **Saugstad JA**, Simon RP, Geromanos S, Langridge J, Lan JQ, Stenzel-Poore M, Zhou A (2010) Polycomb group proteins as epigenetic mediators of neuroprotection in ischemic tolerance, *Science Signaling* 3(111):ra15, PMID: 20197544, NIHMSID216395

25. **Saugstad JA*** (2010) MicroRNAs as effectors of brain function with roles in ischemia and injury, neuroprotection, and neurodegeneration (invited review), *Journal of Cerebral Blood Flow and Metabolism* 30(9):1564-1576, Epub 2010 July 7, PMID: 20606686, NIHMSID228517
26. Ceman S, **Saugstad JA*** (2011) MicroRNAs: Meta-controllers of gene expression in synaptic activity emerge as genetic and diagnostic markers of human disease (*Pharmacology & Therapeutics*, Epub 2011 Jan 20, PMID 21256154

In Preparation (*Corresponding Author)

27. Farr CD, Gafken PR, **Saugstad JA*** (2011) Specific regulation of neuronal nitric oxide synthase by metabotropic glutamate receptor 1 in adult rat brain (submitted)
28. Farr CD, **Saugstad JA*** (2011) Regulation of metabotropic glutamate receptor 5 function by NOGO-A in adult rat brain (submitted)
29. Farr CD, Thompson SJ, Aslan JE, Devare MA, Thomas G, **Saugstad JA*** (2011) Phosphofurin acidic cluster sorting proteins regulate metabotropic glutamate receptor 5 expression brain (in preparation)
30. Thompson SJ, Lusardi TA, MacDonald IC, Theofilas P, **Saugstad JA*** (2011) Regulation of microRNA expression by the activation of group I metabotropic glutamate receptors (in preparation)

Book Chapters (*Corresponding Author)

1. Esmon CT, Esmon NL, **Saugstad JA**, Owen EG (1982) Activation of protein C by a complex between thrombin and endothelial cell surface protein. In *Pathobiology of the Endothelial Cell* (Eds. Nossel, H and Vogel, HJ), Academic Press, pp. 121-136
2. Hanson-Painton O, Tobin SL, **Saugstad JA**, Yamanaka MK, McCarthy BJ (1987) Structure of the *Drosophila* calmodulin gene. In *Calcium Binding Proteins in Health and Disease* (Eds. Norman, AW, Vanaman, TC and Means, AR), Academic Press, pp. 300-302
3. **Saugstad JA**, Segerson TP, Westbrook GL (1995) Modulation of ion channels and synaptic transmission by metabotropic glutamate receptors. In *Excitatory Amino Acids and Synaptic Transmission, Second Edition* (Eds. Wheal, H and Thomson, A) Academic Press, pp. 77-88
4. Hepler JT, **Saugstad JA** (2001) Protein regulators of G protein-coupled receptor functions. In *Understanding G-Protein-Coupled Receptors And Their Role In The CNS*, (Eds. Pangalos, MN and Davies, CH), Oxford University Press, part 1.7, pp. 124-140
5. **Saugstad JA***, Ingram SL (2007) Group I Metabotropic Glutamate Receptors. In *The Glutamate Receptors*, (Eds. Gereau IV, RW and Swanson, GT) Humana Press, pp. 387-463

Abstracts

1. Yamanaka M, Tobin SL, **Saugstad JA**, McCarthy BJ (1983) Transcriptional modulation during development of the single *Drosophila* calmodulin gene, *Journal of Cell Biology* 97
2. **Saugstad JA**, Matsumoto H, Tobin SL (1986) An antigen from *Drosophila* embryos recognized by human rheumatoid arthritis antiserum, *Journal of Cell Biology* 103
3. Hanson-Painton O, **Saugstad JA**, Cook PJ, Hanley J, Tobin SL (1987) Intercalated genes: Transcript(s) within the introns of the *Drosophila* calmodulin gene, *Journal of Cell Biology* 105
4. **Saugstad JA**, Tobin SL (1989) Identification of an intercalated gene encoding a transcript on opposite strand DNA, *Journal of Cell Biology* 107
5. **Saugstad JA**, Segerson TP, Mulvihill ER, Westbrook GL (1992) Isolation of novel glutamate receptor cDNAs from rat olfactory bulb, *Abs Soc Neurosci 22nd Ann Mtg*
6. Westbrook GL, Sahara Y, **Saugstad JA**, Kinzie JM, Segerson TP (1993) Regulation of ion channels by ACPD and AP4, *Functional Neurology Supplement number 4*
7. **Saugstad JA**, Kinzie JM, Segerson TP, Westbrook GL (1993) Characterization of a new metabotropic glutamate receptor (mGluR7) homologous to the AP4 receptor (mGluR4), *Abs Soc Neurosci 23rd Ann Mtg*
8. **Saugstad JA**, Segerson TP, Westbrook GL (1994) L-2-amino-3-phosphonopropionic acid (AP3) is an antagonist for mGluR1a and mGluR5 in *Xenopus* oocytes, *Abs Soc Neurosci 24th Ann Mtg*
9. Kinzie JM, Baccei ML, **Saugstad JA**, Zimmerman EA, Westbrook GL, Segerson TP (1995) Distribution of mGluR7 mRNA in adult and developing rat brain, *Abs Soc Neurosci 25th Ann Mtg*
10. **Saugstad JA**, Segerson TP, Westbrook GL (1995) Metabotropic glutamate receptors activate G protein coupled inwardly rectifying potassium channel in *Xenopus* oocytes, *Abs Soc Neurosci 25th Ann Mtg*
11. **Saugstad JA**, Kinzie JM, Segerson TP, Westbrook GL (1996) Coupling of mGluRs to inwardly rectifying potassium channels: an artifact or a clue to receptor compartmentalization? *2nd International Meeting on Metabotropic Glutamate Receptors*
12. **Saugstad JA**, Kinzie JM, Segerson TP, Westbrook GL (1996) Agonist profile of recombinant rat mGluR8, *2nd International Meeting on Metabotropic Glutamate Receptors*
13. **Saugstad JA**, Marino M, Folk JA, Hepler JR, Conn PJ (1998) RGS4 inhibits signaling by group I metabotropic glutamate receptors, *Abs Soc Neurosci 28th Ann Mtg*
14. **Saugstad JA**, Conn PJ (1999) Identification of proteins that interact with presynaptic metabotropic glutamate receptors, *Abs Soc Neurosci 29th Ann Mtg*
15. **Saugstad JA**, Hall R, Pohl J, Conn PJ (2000) Metabotropic glutamate receptor 7 interacts with alpha tubulin: characterization, regulation and significance, *Abs Soc Neurosci 30th Ann Mtg*
16. Alagarsamy S, **Saugstad JA**, Gereau IV RW, Mansuy I, Warren L, Conn PJ (2000) NMDA-induced reversal of mGluR5 desensitization is mediated by activation of protein phosphatase 2B, *Abs Soc Neurosci 30th Ann Mtg*

17. Cai Z, **Saugstad JA**, Sorensen S, Ciombor KJ, Hubalek F, Stuchlik O, Schaffhauser H, Conn PJ (2000) cAMP-dependent protein kinase inhibits group III mGluR function, *Abs Soc Neurosci 30th Ann Mtg*
18. Yang S, Simon RP, **Saugstad JA** (2001) Sap102 interacts with presynaptic metabotropic glutamate receptors, *Abs Soc Neurosci 31st Ann Mtg*
19. Rosenzweig HL, Minami M, Lessov N, Stevens S, Dykhuizen E, **Saugstad J**, Simon RP, Stenzel-Poore MP (2002) Endotoxin preconditioning alters peripheral inflammatory response to ischemia, *Abs Soc Neurosci 32nd Ann Mtg*
20. **Saugstad JA**, Conn PJ (2002) Regulation of metabotropic glutamate receptor responses, *1st Ann Neurosci Mtg*, National Institute of Neuroscience, National University of Singapore
21. Farr C, Yang S, Lauer A, **Saugstad JA** (2002) Proteomic analysis of metabotropic glutamate receptor protein signaling complexes, *Journal of Cell Biology*
22. Dong J, **Saugstad JA**, Wang L, Cioffi GA (2003) Human glaucoma patients exhibit increased expression of group II metabotropic glutamate receptors in the retinal optic nerve, *Abs Assoc Res Vis Ophth*
23. Farr C, Yang S, Lauer A, **Saugstad JA** (2003) Extracellular regulation of metabotropic glutamate receptor responses, *Abs 6th Ann Intl Brain Res Organ Mtg*
24. Farr CD, Yang S, Doneanu CE, Stapels MD, Barofsky DF, Norbeck AD, Gafken PR, Minami M, **Saugstad JA** (2003) Proteomic analysis of metabotropic receptor 5a-interacting proteins, *Abs Soc Neurosci 33rd Ann Mtg*
25. **Saugstad JA**, Roberts J, Zeitouni S, Evans RJ (2003) Membrane topology of acid-sensing ion channel 2a, *Abs Soc Neurosci 33rd Ann Mtg*
26. Zhu XM, Chu XP, Chen D, **Saugstad JA**, Close N, Hey J, Simon RP, Xiong ZG (2003) Analysis of acidosis-induced injury in cell lines expressing high levels of acid-sensing ion channels *Abs Soc Neurosci 33rd Ann Mtg*
27. Chu XP, Zhu XM, Close N, Wemmie JA, Price MP, **Saugstad JA**, Simon RP, Welsh MJ, Xiong ZG (2003) High-affinity zinc inhibition of acid-sensing ion channels, *Abs Soc Neurosci 33rd Ann Mtg*
28. Chu XP, Zhu XM, Chen D, **Saugstad JA**, Simon RP, Welsh MJ, Xiong ZG (2003) Metabolic inhibition enhances the activity of acid-sensing ion channels, *Abs Soc Neurosci 33rd Ann Mtg*
29. **Saugstad JA**, Dong J, Chu XP, Xiong ZG, Simon RP, Engelman CJ, Cioffi GA (2004) Role of acid-sensing ion channels in glaucoma, *Abs Assoc Res Vis Ophth*
30. Farr CD, Minami M, **Saugstad JA** (2004) Proteomic analysis of ischemic tolerant rat brain reveals distinct changes in group I metabotropic glutamate receptor signaling complexes, *Abs Soc Neurosci 34th Ann Mtg*
31. Chu XP, Close N, **Saugstad JA**, Simon RP, Xiong ZG (2004) Redox modulation of the acid-sensing ion channels, *Abs Soc Neurosci 34th Ann Mtg*
32. Dong J, Cioffi GA, **Saugstad JA** (2005) Expression of metabotropic glutamate receptors in primary cultured retinal ganglion cells, *Abs Assoc Res Vis Ophth*
33. **Saugstad JA**, Pignataro G, Yomamoto A, Shingara J, Brown D, Simon RP (2005) Regulation of microRNA expression by ischemia and ischemic preconditioning, *Abs Soc Neurosci 35th Ann Mtg*

34. Farr CD, Aslan JE, Thomas G, **Saugstad JA** (2005) Proteomic analysis of metabotropic glutamate receptor 5 (mGluR5) signaling complexes reveals an mGluR5-interaction with phosphofurin acidic cluster sorting proteins, *Abs Soc Neurosci 35th Ann Mtg*
35. Chai S, Li M, Lan JQ, Clayton C, Xiong ZG, Simon RP, **Saugstad JA** (2005) Acid sensing ion channels ASIC1a and ASIC2a interact with A-kinase-anchoring protein 150 (AKAP150) and calcineurin, *Abs Soc Neurosci 35th Ann Mtg*
36. **Saugstad JA** (2006) Regulation of microRNAs by ischemic preconditioning, *Vanderbilt Eye Symposium*
37. Dong J, Cioffi GA, **Saugstad JA** (2006) Metabotropic glutamate receptors in retinal ganglion cells: expression and role in excitotoxic cell death, *Abs Assoc Res Vis Ophth*
38. Lusardi T, Pignataro G, Simon RP, **Saugstad JA** (2006) Regulation of microRNAs by ischemic preconditioning, *Abs 71st Cold Spring Harbor Symposium, Regulatory RNAs*
39. **Saugstad JA**, Pignataro G, Simon RP, Lusardi TA (2007) Regulation of microRNA expression by ischemia and ischemic preconditioning, *Abs Soc Neurosci 37th Ann Mtg*
40. **Saugstad JA** (2008) Minisymposium Chair: Role of microRNAs in neuronal disorders and neuroprotection, *Abs Soc Neurosci 38th Ann Mtg*
41. **Saugstad JA** (2008) Mechanisms of preconditioning-induced tolerance, *Vanderbilt Eye Symposium*
42. Lusardi T, **Saugstad JA** (2009) The preconditioning switch: microRNA degradation and derepression of messenger RNAs encoding transcriptional regulators, *Spring Hippocampal Conference*
43. **Saugstad JA** (2009) Role for microRNAs in preconditioning-induced tolerance, *Neurotoxicity Society*
44. **Saugstad JA** (2010) Regulation of MicroRNA expression by group I mGluR activation, *Abs Soc Neurosci 40th Ann Mtg*

Invited Presentations

- 5/26/11 Brain'11, Special Symposium, Journal of Cerebral Blood Flow and Metabolism: Highlights and Awards, Barcelona, Spain, "Ischemic Preconditioning Regulates Expression of MicroRNAs in Mouse Cortex"
- 03/19/11 Annual American Society for Neurochemistry Meeting, MicroRNA: From Theory to Practice Workshop St. Louis, MO, "MicroRNAs in Neuroprotection"
- 12/15/10 Department of Anesthesiology and Perioperative Medicine, Oregon Health & Science University, Portland, Oregon, "Regulation of MicroRNA Signaling in Mouse Brain"
- 10/5/10 Department of Cell & Developmental Biology, University of Illinois-Urbana, Illinois, "MicroRNAs as Effectors of Endogenous Neuroprotection"
- 10/1/10 Glaucoma Foundation Think Tank, New York, New York, "Small RNAs in Retinal Diseases"
- 10/16/09 Neurotoxicity Society SFN Satellite Meeting - Protection against neurodegeneration Loyola University, Chicago, Illinois, "Role for microRNAs in Preconditioning-Induced Tolerance"
- 6/19/09 Spring Hippocampal Research Conference, Verona, Italy, "MicroRNAs Regulated in Preconditioned Mice Reveal Novel Targets with Roles in Ischemic Tolerance" (T Lusardi)
- 11/19/08 Society for Neuroscience, Organizer/Chair, Minisymposium - Role of MicroRNAs in Neurological Disorders and Neuroprotection, "Role of MicroRNAs in Ischemic Preconditioning-Induced Tolerance"
- 10/15/08 Vanderbilt Eye Institute Symposium - Neurodegeneration in Glaucoma: From Mechanisms to New Treatments, Vanderbilt University, Nashville, Tennessee "Role of MicroRNAs in Ischemic Preconditioning-Induced Tolerance"
- 1/17/08 International Symposium on Regenerative Neuroscience and Annual Meeting of Society for Neurochemistry – India, Bangalore, India (Declined, R01 grant deadline)
- 4/17/08 University of Wisconsin Neuroscience Training Program, Madison, Wisconsin, "Role of MicroRNAs in Ischemic Tolerance"
- 10/5/06 Vanderbilt Eye Institute Symposium - Neuroprotective Strategies in the Eye, Vanderbilt University, Nashville, Tennessee, "Regulation of Mouse Brain MicroRNAs by Ischemic Preconditioning"
- 1/20/06 Division of Pulmonary and Critical Care Medicine, Oregon Health Sciences University, Portland, Oregon, "Endogenous Mechanisms of Neuroprotection"
- 7/14/03 Sixth Annual International Brain Research Organization World Congress of Neuroscience, Prague, Czechoslovakia, "Proteomic Analysis of Metabotropic Glutamate Receptor Signaling Complexes"
- 7/20/03 Department of Cell Physiology and Pharmacology, The University of Leicester, Leicester, United Kingdom, "Proteomics of Metabotropic Glutamate Receptors"
- 3/15/02 National Neuroscience Institute of Singapore and the National University of Singapore Inaugural Neuroscience Symposium, "Roles of Glutamate and Acidosis in Ischemic Stroke"
- 4/12/99 Department of Pharmacology & Toxicology, Indiana University School of Medicine, Indianapolis, Indiana, "RGS Regulation of Metabotropic Glutamate Receptors"

Molecular Cloning and Patents

1. Y00133 – Structure and expression of the Drosophila calmodulin gene, Yamanaka MK, **Saugstad JA**, Hanson-Painton O, McCarthy BJ, Tobin SL
2. U06832 – Cloning and expression of a new member of the L-2-amino-4-phosphonobutyric acid-sensitive class of metabotropic glutamate receptors, **Saugstad JA**, Kinzie JM, Mulvihill ER, Segerson TP, Westbrook GL (U.S. Patent # 5738999, L-AP4 Sensitive Glutamate Receptors (mGluR7a), April 1998; U.S. Patent # 5831047, Oligonucleotide Probes to L-AP4 Sensitive Glutamate Receptors, November 1998, U.S. Patent # 6274330, L-AP4 Sensitive Glutamate Receptors, August 2001)
3. U63288 – Cloning and expression of rat metabotropic glutamate receptor 8 reveals a distinct pharmacological profile, **Saugstad JA**, Kinzie JM, Shinohara MM, Segerson TP, Westbrook GL
4. AY093422 – Molecular cloning and characterization of a rat novel A18 hnRNP protein-binding gene, Chen D, **Saugstad J**, Henshall D, Minami M, Simon RP

Notable Acknowledgements

1. Esmon NL, Owen WG, Esmon CT (1981) Isolation of a Membrane-bound Cofactor for Thrombin-catalyzed Activation of Protein C, *Journal Of Biological Chemistry*, 257:859-864
2. Esmon NL, DeBault LE, Esmon CT (1983) Proteolytic Formation and Properties of gamma-carboxyglutamic Acid domainless Protein C, *Journal Of Biological Chemistry*, 258:554-555
3. Laue TM, Johnson AE, Esmon CT, Yphantis DA (1984) Structure of bovine blood-coagulation factor Va. Determination of the subunit associations, molecular weights, and asymmetries by analytical ultracentrifugation, *Biochemistry*, 23:1339-1348
4. Köhler M, Hirschberg B, Bond CT, Kinzie JM, Marrion NV, Maylie J, Adelman JP (1996) Small-Conductance, Ca²⁺ Activated Potassium Channels from Mammalian Brain, *Science* 273:1709-1714

Teaching Experience

Oklahoma State University

Lab Assistant for Undergraduate Cell Biology Course

Oklahoma Community College

Microbiology to Undergraduates

Oklahoma University Health Science Center

Molecular Biology to Pharmacy Students

Protein Chemistry to Dental Students

Emory University

Molecular Neurobiology & Electrophysiology to Biology Undergraduates

Pharmacology to Nursing Students

G Protein-Coupled Receptor Signaling to Graduate Students

Woods Hole Marine Biological Laboratories (Invited Faculty)

Structure/Function Analysis of Protein to Neurobiology Summer Students

Grant Funding, Julie Saugstad, Principle Investigator

Emory University	Title	Award Date	Direct Costs	Indirect Costs
Culpeper Foundation	Regulation of mGluR Responses by RGS Proteins	6/1/1998	\$ 30,000.00	
Alzheimer's Association	Regulation of Muscarinic Acetylcholine Receptors by RGS Proteins	8/1/1998	\$ 30,000.00	
Alzheimer's Association	Regulation of Muscarinic Acetylcholine Receptors by RGS Proteins	8/1/1999	\$ 30,000.00	
1R01MH059951-01	Regulation of Metabotropic Glutamate Receptor Responses	9/1/1999	\$ 129,155.00	\$ 70,389.00
Total Emory			\$ 219,155.00	\$ 70,389.00
Legacy Health	Title	Award Date	Direct Costs	Indirect Costs
5R01MH059951-02	Regulation of Metabotropic Glutamate Receptor Responses	9/1/2000	\$ 35,036.00	\$ 15,659.00
7R01MH059951-03	Regulation of Metabotropic Glutamate Receptor Responses	12/15/2000	\$ 115,078.00	\$ 39,761.00
5R01MH059951-04	Regulation of Metabotropic Glutamate Receptor Responses	1/10/2001	\$ 137,021.00	\$ 57,001.00
5R01MH059951-05	Regulation of Metabotropic Glutamate Receptor Responses	2/15/2002	\$ 141,129.00	\$ 58,710.00
Legacy Research Foundation	Molecular Determinants of Acid-Sensing Ion Channels	4/1/2002	\$ 87,000.00	
Medical Research Foundation	Proteomic Analysis of Acid-Sensing Ion Channel 2a Signaling Complexes	7/1/2003	\$ 30,000.00	
The Glaucoma Foundation	Role of Acid-Sensing Ion Channel 2a in Glaucoma	9/1/2003	\$ 35,000.00	
1R03EY015267-01	Role of Acid-Sensing Ion Channels in Glaucoma	11/25/2003	\$ 100,000.00	\$ 55,000.00
1R21MH066967-01A2	Extracellular Modulation of Metabotropic GluRs	3/2/2004	\$ 95,000.00	\$ 52,250.00
5R03EY015267-02	Role of Acid-Sensing Ion Channels in Glaucoma	11/23/2004	\$ 100,000.00	\$ 55,000.00
5R21MH066967-02	Extracellular Modulation of Metabotropic GluRs	3/18/2005	\$ 95,000.00	\$ 52,250.00
5R03EY015267-03	Role of Acid-Sensing Ion Channels in Glaucoma	12/12/2005	\$ 97,650.00	\$ 53,708.00
1R01NS050221-01A2	Neuroprotection by Novel Regulators of mGluR Signaling	12/13/2005	\$ 202,500.00	\$ 111,375.00
1R21NS054220-01A1	Role of MicroRNAs in Ischemic Tolerance	7/31/2006	\$ 112,500.00	\$ 61,875.00
5R01NS050221-02	Neuroprotection by Novel Regulators of mGluR Signaling	1/16/2007	\$ 196,628.00	\$ 108,145.00
5R21NS054220-02	Role of MicroRNAs in Ischemic Tolerance	6/6/2007	\$ 131,085.00	\$ 72,097.00
5R01NS050221-03	Neuroprotection by Novel Regulators of mGluR Signaling	12/13/2007	\$ 196,628.00	\$ 108,145.00
5R01NS050221-04	Neuroprotection by Novel Regulators of mGluR Signaling	11/12/2008	\$ 196,628.00	\$ 108,145.00
1R01NS064270-01A2	Role for MicroRNAs in Ischemic Tolerance	5/1/2010	\$ 200,000.00	\$ 106,000.00
Total Legacy			\$2,303,883.00	\$ 1,115,121.00
Total Grant Awards			\$2,523,038.00	\$ 1,185,510.00