

CURRICULUM VITAE

Personal Resume

Name: Mi-Hyeon Jang

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Education and Position

1998-2000	B.S., Earth and Environmental Science, Chungbuk National University, South Korea
2001-2003	M.S., Physiology, Kyung Hee University Medical College, South Korea (Advisor: Dr. Changju Kim)
2003-2005	Ph.D., Physiology, Kyung Hee University Medical College, South Korea (Advisor: Dr. Changju Kim)
2005-2011	Post-doctoral fellow, Institute for Cell Engineering (ICE), Department of Neurology, Johns Hopkins University School of Medicine, MD, U.S.A. (Advisor: Dr. Hongjun Song)
2011-2012	Research Associate, Institute for Cell Engineering (ICE), Department of Neurology, Johns Hopkins University School of Medicine, MD, U.S.A. (Advisor: Dr. Hongjun Song)
2012-2018	Assistant Professor, Senior Associate Consultant I, Department of Neurological Surgery, Mayo Clinic, MN, U.S.A.
2012-2021	Assistant Professor, Senior Associate Consultant I, Department of Biochemistry and Molecular Biology, Mayo Clinic, MN, U.S.A.
2012-2021	Full graduate faculty privileges in the Neuroscience Track, Mayo Clinic College of Medicine, MN, U.S.A.
2018-2021	Associate Professor, Senior Associate Consultant I, Department of Neurological Surgery, Mayo Clinic, MN, U.S.A.
2020-2021	Associate Professor, Senior Associate Consultant II, Department of Neurological Surgery, Mayo Clinic, MN, U.S.A.
2021. 8-present	Associate Professor with tenure, Department of Neurological Surgery, Robert Wood Johnson Medical School, Rutgers University, NJ, U.S.A.
2021. 8-present	Core Member, Brain Health Institute, Rutgers University, NJ, U.S.A.
2021. 8-present	Full Member, Rutgers Cancer Institute of New Jersey, NJ, U.S.A.

Other Experience and Professional Memberships

2005 -	Member, Society for Neuroscience (SfN)
2012 - 2021	Full Member, Mayo Clinic Cancer Center
2012 - 2014	Member, Research Society on Alcoholism (RSA)
2012 - 2021	Member, Mayo Clinic Cancer Center
2013 - 2014	Sigma Xi
2013 -	Member, Society of Biological Psychiatry (SOBP)
2013 -	Member, International Society for Stem Cell Research (ISSCR)
2013 -	Editorial Board Member, Journal of Exercise Rehabilitation (JER)
2020 -	Council Member, Association of Korean Neuroscientists (AKN)
2021 -	Committee Member, Association of Korean Neuroscientists (AKN) eTALK seminar series
2021 -	Associate Editor in Brain Disease Mechanisms, Frontiers in Molecular Neuroscience
2021	Committee Member, 2 nd Association of Korean Neuroscientists (AKN) Research Symposium
2021 -	Sub-Committee Member, World Society for Stereotactic and Functional Neurosurgery (WSSFN) 2022

2022 - Member, American Association for Cancer Research (AACR)
 2022 Co-chair, 3rd Association of Korean Neuroscientists (AKN) Research Symposium
 2022 - 2023 Co-chair, Association of Korean Neuroscientists (AKN) eTALK seminar series

Honors and Awards

2003 Kyung Hee University Medical School Award for the Best Master's Thesis
 2004 Health Fellowship Award, Korea
 2005 Kyung Hee University Medical School Award for the Best PhD's Thesis
 2005 Postdoctoral Fellowship Award from BME and ICE at Johns Hopkins University
 2008 Best Poster Award, ICE Symposium 2008
 2009 Outstanding Poster Award, Baltimore Life Science Association (BLSA) Conference
 2010 NIH Pathway to Independence (PI) Award (K99/R00)
 2010 The 4th Julius Axelrod Travel Award for Society for Neuroscience (SfN)
 2010 NARSAD Young Investigator Award
 2011 Hanmi Poster Award (1st place), Baltimore/Washington Metropolitan Area Life Scientists Poster Symposium
 2011 Travel Award for American College of Neuropsychopharmacology (ACNP)
 2012 Fraternal Order of Eagles Award, Mayo Clinic Cancer Center
 2013 Accelerated Regenerative Medicine Award, Mayo Clinic Center for Regenerative Medicine
 2013 Travel Award for Mayo-Karolinska Institutet Annual Conference at Stockholm, Sweden
 2013 Research Grant, Whitehall Foundation
 2013 The Janet Rosenberg Trubatch Career Development Award, Society for Neuroscience (SfN)
 2014 Career Development Award in Regenerative Medicine and Science, Mayo Clinic Center for Regenerative Medicine
 2017 Discovery Science Award, Regenerative Medicine Minnesota (RMM)
 2017 Development Research Project from Breast Cancer SPORE at Mayo Clinic Cancer Center
 2019 Discovery Science Award, Regenerative Medicine Minnesota (RMM)
 2019 Eagles 5th District Cancer Telethon Funds for Cancer Research
 2022 2022 Cancer Survivorship Research Center's Pilot Award Program

Professional and Administrative Services

Grant Reviewer:

2012 Ad hoc reviewer (Kansas NSF EPSCoR First Award program)
 2012 Ad hoc reviewer (Austrian Science Fund)
 2013 & 2017 Ad hoc reviewer (NSF CAREER program)
 2018 & 2019 Ad hoc reviewer (NIH/NCF study section)
 2020 Ad hoc reviewer (NIH/ZRG MDCN-V (02) Special Emphasis Panel)
 2021 Ad hoc reviewer (NIH/ZRG1 CVRS-S (55) R Special Emphasis Panel for Lasker Clinical Research Scholars)
 2021 Mail reviewer (NDPR study section)
 2021 Ad hoc reviewer (NIH/ZAG1 ZIJ-8 [J1] Special Emphasis Panel)
 2022 Ad hoc reviewer (NIH/ZRG1 CVRS-S (55) Special Emphasis Panel)

Journal Reviewer (Ad hoc):

JAMA Psychiatry, Science Translational Medicine, Biological Psychiatry, Journal of Neuroscience, iScience, Stem Cell, Aging Cell, Scientific Reports, Molecular Brain, Journal of Biological Chemistry, Frontier in Molecular Neuroscience, Neuroscience Letters, Plos One, Fertility and Sterility, Brain and Development, Neural Plasticity, and Journal of Nutritional Biochemistry.

Institutional Service:Mayo Clinic

2013 - 2021	PhD Thesis Advisory Committee member at Mayo Clinic Graduate School (6 students)
2014 & 2016	Mayo Clinic Neuroscience Track Coordinator of Summer Undergraduate Research Fellowship (SURF) Program
2019 - 2023	Mayo Clinic College of Medicine, MD/PhD Program Admission Committee and Faculty Member
2019 - 2021	Mayo Clinic Rochester Neurosurgery Research Committee Member
2020	Mayo Clinic Graduate School PhD Program Neuroscience Track Admission Committee Member
2021	2021 Balfour and Kendall Awards Selection Committee Member

Rutgers University

2021	Research mentor for undergraduate students (Raad Altawell, Ivan Loncar, Marwan Mostafa)
2021	Rutgers Neurosurgery Faculty Search Committee (Chair: Dr. Detlev Boison)
2021	Thesis co-advisor for Chadni Patel (PhD student at Cellular and Molecular Pharmacology Program at Rutgers University; Dr. Peter Cole is the primary advisor).
2022	2022 Rutgers Summer Research Fellowship Review Committee
2022. 8	Rutgers BHI, Neurodegeneration & Injury Focus Area Working Groups (FAWG) member (Chair: Dr. Detlev Boison, Co-chair: Dr. Teresa Wood)
2022. 9	Rutgers RARC Basic Science Faculty Search Committee (Chair: Dr. Chris Pierce)
2022. 11	AKN Post-doctoral Award Selection Committee
2023. 1 ~	Rutgers Internal Mock Study Section Committee

Teaching Service:

2014 & 2016	Co-director on the PhD course NBD 6855 "Concepts of Cell Growth and Regeneration" at the Mayo Clinic Graduate School.
2018	Faculty mentor on the PhD course CORE 6050 "Grant Writing" at the Mayo Clinic Graduate School.
2018	Faculty mentor on the Post-doctoral mentorship sessions "How to become faculty in academia" at the Mayo Clinic Graduate School.

Academic Career Development:

02/2015	Career and Leadership Development Researchers Orientation, Rochester, Minnesota
01/2018-07/2018	Professional Coaching in "Lab management and effective communication skills" with Cathy Pierzina (Leadership and Organization Development Advisor, Mayo Clinic Human Resource).

Publications

Research articles (#: *Corresponding author*, *: *Co-first author*)

1. Oliveros A*, Yoo KH*, Rashid MA*, Corujo-Ramirez A, Liu Y, Hur B, Sung J, Hawse JR, Choi DS, Boison D, and **Jang MH#**. Blockade of the Adenosine A_{2A} receptor prevents against cisplatin-induced cognitive impairment. **PNAS**, 2022 Jul 12;119(28):e2206415119. doi: 10.1073/pnas.2206415119. PubMed PMID: 35867768.
2. Rashid MA*, Oliveros A, Kim YS, **Jang MH**. Nicotinamide mononucleotide prevents cisplatin-induced mitochondrial defects in cortical neurons derived from human induced pluripotent stem cells. **Brain Plasticity** (2022, *in press*).
3. Yoo KH*, Tang JJ*, Rashid MA*, Cho CH, Corujo-Ramirez A, Choi JH, Bae MG, Brogren D, Hawse JR, Hou X, Weroha SJ, Oliveros A, Kirkeby LA, Baur JA, **Jang MH#**. Nicotinamide mononucleotide prevents chemotherapy-induced cognitive impairments. **Cancer Research** 2021, canres.3290.2020. doi: 10.1158/0008-5472.CAN-20-3290. PubMed PMID: 33771896.
4. Ibrayeva A, Bay M, Pu E, Jörg D, Peng L, Jun H, Zhang N, Aaron D, Lin C, Resler G, **Jang MH**, Simons BD, Bonaguidi MA#. Early stem Cell aging in the mature brain. **Cell Stem Cell** 2021, 28(5):955-966.e7. doi: 10.1016/j.stem.2021.03.018. PubMed PMID: 33848469.
5. Corujo-Ramirez AM, Dua M, Yoo, KH, Oliveros A, **Jang MH#**. Genetic inhibition of sFRP3 prevents glial reactivity in a mouse model of accelerated aging. **Int Neurol J**, 2020 24 (Supple 2): 72-78. PubMed PMID: 33271003.
6. Simmons AJ, Park R, Sterling NA, **Jang MH**, van Deursen JMA, Yen TJ, Cho SH, Kim S. Nearly complete deletion of BubR1 causes microcephaly through shortened mitosis and massive cell death. **Hum Mol Genet**. 2019 Jan 22. doi: 10.1093/hmg/ddz022. [Epub ahead of print] PubMed PMID: 30668728.
7. Cho CH*, Yoo KH*, Oliveros A, Paulson S, Hussaini SMQ, van Deursen JM, **Jang MH#**. sFRP3 inhibition improves age-related cellular changes in BubR1 progeroid mice. **Aging Cell**. 2019 Jan 4:e12899. doi: 10.1111/accel.12899. [Epub ahead of print] PubMed PMID: 30609266.
8. Peyton L, Oliveros A, Cho CH, Starski P, Lindberg D, **Jang MH**, Choi DS. Waiting impulsivity during reward seeking increases adult hippocampal neurogenesis in mice. **Neurosci Lett**. 2019 July 27, 706:169-175. doi: 10.1016/j.neulet.2019.05.032. PMID: 31116969.
9. Cho CH, Yang Z, Yoo KH, Oliveros A, **Jang MH#**. BubR1 Insufficiency Impairs Affective Behavior and Memory Function in Mice. **Int Neurol J**. 2018 Oct;22(Suppl 3):S122-130. doi: 10.5213/inj.1836218.109. Epub 2018 Oct 31. PubMed PMID: 30396261; PubMed Central PMCID: PMC6234727.
10. Terrillion CE*, Abazyan B*, Yang Z*, Crawford J, Shevelkin AV, Jouroukhin Y, Yoo KH, Cho CH, Roychaudhuri R, Snyder SH, **Jang MH#**, Pletnikov MV#. DISC1 in Astrocytes Influences Adult Neurogenesis and Hippocampus-Dependent Behaviors in Mice. **Neuropsychopharmacology**. 2017 Oct;42(11):2242-2251. doi: 10.1038/npp.2017.129. Epub 2017 Jun 20. PubMed PMID: 28631721; PubMed Central PMCID: PMC5603806.

11. Tang JJ, Podratz JL, Lange M, Scrable HJ, **Jang MH**, Windebank AJ. Mechano growth factor, a splice variant of IGF-1, promotes neurogenesis in the aging mouse brain. **Mol Brain**. 2017 Jul 7;10(1):23. doi: 10.1186/s13041-017-0304-0. PubMed PMID: 28683812; PubMed Central PMCID: PMC5501366.
12. Yang Z*, Jun H*, Choi CI, Yoo KH, Cho CH, Hussaini SMQ, Simmons AJ, Kim S, van Deursen JM, Baker DJ, **Jang MH**[#]. Age-related decline in BubR1 impairs adult hippocampal neurogenesis. **Aging Cell**. 2017 Jun;16(3):598-601. doi: 10.1111/ace.12594. Epub 2017 Apr 6. PubMed PMID: 28383136; PubMed Central PMCID: PMC5418205.
13. Oliveros A, Cho CH, Cui A, Choi S, Lindberg D, Hinton D, **Jang MH**, Choi DS. Adenosine A_{2A} receptor and ERK-driven impulsivity potentiates hippocampal neuroblast proliferation. **Transl Psychiatry**. 2017 Apr 18;7(4):e1095. doi: 10.1038/tp.2017.64. PubMed PMID: 28418405; PubMed Central PMCID: PMC5416704.
14. Choi CI, Yoo KH, Hussaini SM, Jeon BT, Welby J, Gan H, Scarisbrick IA, Zhang Z, Baker DJ, van Deursen JM, Rodriguez M, **Jang MH**[#]. The progeroid gene BubR1 regulates axon myelination and motor function. **Aging** (Albany NY). 2016 Sep 12;8(11):2667-2688. doi: 10.18632/aging.101032. PubMed PMID: 27922816; PubMed Central PMCID: PMC5191862.
15. Jun H, Hussaini SM, Cho CH, Welby J, **Jang MH**[#]. Gadd45b Mediates Electroconvulsive Shock Induced Proliferation of Hippocampal Neural Stem Cells. **Brain Stimul**. 2015 Jul 28. PMID:26281755. DOI:10.1016/j.brs.2015.07.036.
16. Sun J*, Bonaguidi MA*, Jun H, Guo JU, Sun GJ, Will B, Yang Z, **Jang MH**, Song H, Ming GL, Christian KM. A septo-temporal molecular gradient of sfrp3 in the dentate gyrus differentially regulates quiescent adult hippocampal neural stem cell activation. **Mol Brain**. 2015; 8(1):52. Epub 2015 Sep 04. PMID:26337530. PMCID:4559945. DOI:10.1186/s13041-015-0143-9.
17. **Jang MH**^{*,#}, Bonaguidi MA*, Kitabatake Y*, Sun J*, Song J, Kang E, Jun H, Zhong C, Su Y, Guo JU, Wang MX, Sailor KA, Kim JY, Gao Y, Christian KM, Ming G, Song H[#]. Secreted frizzled-related protein 3 regulates activity-dependent adult hippocampal neurogenesis. **Cell Stem Cell** 2013, 12 (2) 215-223 (PMID: 23395446). - [Recommended to the Faculty of 1000](#). - [Cover image](#)
18. **Jang MH**^{*}, Kitabatake Y*, Kang E, Jun H, Pletnikov MV, Christian KM, Hen R, Binder EB, Song H, Ming GL. Secreted Frizzled-related Protein 3 (sFRP3) regulates antidepressant responses in mice and humans. **Mol. Psychiatry** 2013, 18 (9) 957-958 (PMID: 23207650).
19. Lee MH, Wang T, **Jang MH**, Steiner J, Haughey N, Ming GL, Song H, Nath A, Venkatesan A. Rescue of adult hippocampal neurogenesis in a mouse model of HIV neurologic disease. **Neurobiol Dis** 2011, 41(3):678-687. - [Cover image](#)
20. Ford EC, Achanta P, Purger D, Armour M, Reyes J, Fong J, Kleinberg L, Redmond K, Wong J, **Jang MH**, Jun H, Song H-j, Quinones-Hinojosa A. Localized CT-guided irradiation inhibits neurogenesis in specific regions of the adult mouse brain. **Radiation Research** 2011, 175(6): 774-783.
21. Guo JU, Ma DK, Mo H, Ball MP, **Jang MH**, Bonaguidi MA, Balazer JA, Eaves HL, Xie B, Ford EC, Zhang K, Ming GL, Gao Y, Song H. Neuronal activity modifies DNA methylation landscape in the adult brain. **Nature Neurosci** 2011, 14(10): 1345-1351. - [Recommended to the Faculty of 1000](#). - [Cover image](#)
22. Ma DK*, **Jang MH**^{*}, Guo JU, Kitabatake Y. Chang ML, Pow-anpongkul N, Flavell RA, Lu B, Ming GL, Song H. Neuronal activity-induced Gadd45b promotes epigenetic DNA demethylation and adult

neurogenesis. **Science** 2009; 323 (5917): 1074-1077 (*co-first author). - *Recommended to the Faculty of 1000*.

23. Kim JY, Duan X, Liu CY, **Jang MH**, Guo JU, Pow-anpongkul N, Kang E, Song H, Ming G-I. DISC1 regulates new neuron development in the adult brain via modulation of AKT-mTOR signaling through KIAA1212. **Neuron** 2009; 63 (6): 761-773. - *Cover image*
24. Faulkner RL*, **Jang MH***, Liu XB*, Duan X, Sailor KA, Ge S, Jones EG, Ming GL, Song H†, Cheng H-J†. Development of hippocampal mossy fiber synaptic outputs by new neurons in the adult brain. **Proc Nat Acad Sci** 2008; 105: 14157-14162.
25. **Jang MH**, Kim CJ, Kim EH, Kim MG, Leem KH, Kim J. Effects of Platycodon grandiflorum on lipopolysaccharide-stimulated production of prostaglandin E2, nitric oxide, and interleukin-8 in mouse microglial BV2 cells. **J Med Food** 2006; 9:169-174.
26. **Jang MH**, Jung SB, Lee MH, Kim H, Lee SJ, Sim YJ, Lee HH, Kim EK, Kim CJ, Shin HS, Kim J, Kim EH. Influence of maternal alcohol administration on c-Fos expression in the hippocampus of infant rats. **Neurosci Lett** 2005; 378: 44-48.
27. **Jang MH**, Jung SB, Lee MH, Kim CJ, Oh YT, Kang I, Kim J, Kim EH. Melatonin attenuates amyloid beta25-35-induced apoptosis in mouse microglial BV2 cells. **Neurosci Lett** 2005; 380: 26-31.
28. **Jang MH**, Lee MH, Kim H, Lee SJ, Sim YJ, Kim CJ, Park SK, Kim J, Kim EH. Maternal alcohol administration suppresses expression of nitric oxide synthase in the hippocampus of offspring rats. **J Pharmacol Sci** 2005; 98: 459-462.
29. Hong SJ, Rim GS, Yang HI, Yin CS, Koh HG, **Jang MH**, Kim CJ, Choe BK, Chung JH. Bee venom induces apoptosis through caspase-3 activation in synovial fibroblasts of patients with rheumatoid arthritis. **Toxicon** 2005; 46: 39-45.
30. Kim KH, Joo KJ, Park HJ, Kwon CH, **Jang MH**, Kim CJ. Nicotine induces apoptosis in TM3 mouse Leydig cells. **Fertil Steril** 2005; 83: 1093-1099.
31. Kim YP, Kim H, Shin MS, Chang HK, **Jang MH**, Shin MC, Lee SJ, Lee HH, Yoon JH, Jeong IG, Kim CJ. Age-dependence of the effect of treadmill exercise on cell proliferation in the dentate gyrus of rats. **Neurosci Lett** 2004; 355: 152-154.
32. **Jang MH**, Lim S, Han SM, Park HJ, Shin I, Kim JW, Kim NJ, Lee JS, Kim KA, Kim CJ. Harpagophytum procumbens suppresses lipopolysaccharide-stimulated expressions of cyclooxygenase-2 and inducible nitric oxide synthase in fibroblast cell line L929. **J Pharmacol Sci** 2003; 93(3): 367-371.
33. **Jang MH**, Shin MC, Koo GS, Lee CY, Kim EH, Kim CJ. Acupuncture decreases nitric oxide synthase expression in periaqueductal gray area of rats with streptozotocin-induced diabetes. **Neurosci Lett** 2003; 337: 155-158.
34. **Jang MH**, Shin MC, Kim KH, Cho SY, Bahn GH, Kim EH, Kim CJ. Nicotine administration decreases neuropeptide Y expression and increase leptin receptor expression in the hypothalamus of food-deprived rats. **Brain Res** 2003; 964: 311-315.
35. **Jang MH**, Shin MC, Lee TH, Bahn GH, Shin HS, Lim S, Kim EH, Kim CJ. Effect of Puerariae Radix on c-Fos expression in hippocampus of alcohol-intoxicated juvenile rats. **Biol Pharm Bull** 2003; 26: 37-40.

36. **Jang MH**, Chang HK, Shin MC, Lee TH, Kim YP, Kim EH, Kim CJ. Effect of Ginseng Radix in c-Fos expression in the hippocampus of streptozotocin-induced diabetic rats. **J Pharmacol Sci** 2003; 91: 149-152.
37. **Jang MH**, Shin MC, Lim S, Han SM, Park HJ, Shin I, Lee JS, Kim KA, Kim EH, Kim CJ. Bee venom induces apoptosis and inhibits expression of cyclooxygenase-2 mRNA in human lung cancer cell line NCI-H1299. **J Pharmacol Sci** 2003; 91: 95-104.
38. **Jang MH**, Shin MC, Lee TH, Lim BV, Shin MS, Min BI, Kim H, Cho S, Kim EH, Kim CJ. Acupuncture suppresses ischemia-induced increase in c-Fos expression and apoptosis in the hippocampal CA1 region in gerbils. **Neurosci Lett** 2003; 347: 5-8.
39. Lee TH, **Jang MH**, Shin MC, Lim BV, Kim YP, Kim H, Choi HH, Lee KS, Kim EH, Kim CJ. Dependence of rat hippocampal c-Fos expression on intensity and duration of exercise. **Life Sci** 2003; 72: 1421-1436.
40. Yang HJ, Shin MC, Chang HK, **Jang MH**, Lee TH, Kim YJ, Chung JH, Kim CJ. Bupivacaine and ropivacaine suppresses glycine- and glutamate-induced ion currents in acutely dissociated rat hippocampal neurons. **Neurosci Lett** 2003; 344: 33-36.
41. Shin MS, Kim H, Chang HK, Lee TH, **Jang MH**, Shin MC, Lim BV, Lee HH, Kim YP, Yoon JH, Jeong IG, Kim CJ. Treadmill exercise suppresses diabetes-induced increment of neuropeptide Y expression in the hypothalamus of rats. **Neurosci Lett** 2003; 346: 157-160.
42. Lee MH, Kim H, Kim SS, Lee TH, Lim BV, Chang HK, **Jang MH**, Shin MC, Shin MS, Kim CJ. Treadmill exercise suppresses ischemia-induced increment in apoptosis and cell proliferation in hippocampal dentate gyrus of gerbils. **Life Sci** 2003; 73(19): 2455-2465.
43. Lee HH, Kim H, Lee MH, Chang HK, Lee TH, **Jang MH**, Shin MC, Lim BV, Shin MS, Kim YP, Yoon JH, Jeong IG, Kim CJ. Treadmill exercise decreases intraatrial hemorrhage-induced neuronal cell death via suppression on caspase-3 expression in rats. **Neurosci Lett** 2003; 352(1): 33-36.
44. Kim SS, Kim H, Lee SJ, Chang HK, Shin MC, **Jang MH**, Shin MS, Kim CJ. Treadmill exercise suppresses food-deprivation-induced increase of nitric oxide synthase expression in rat paraventricular nucleus. **Neurosci Lett** 2003; 353(1): 41-44.
45. **Jang MH**, Shin MC, Kim YJ, Chung JH, Yim SV, Kim EH, Kim Y, Kim CJ. Protective effects of Puerariae flos against ethanol-induced apoptosis on human neuroblastoma cell line SK-N-MC. **Jpn J Pharmacol** 2001; 87: 338-342.
46. **Jang MH**, Shin MC, Jung SB, Lee TH, Bahn GH, Kim KY, Kim EH, Kim CJ. Alcohol and nicotine reduce cell proliferation and enhance apoptosis in dentate gyrus. **NeuroReport** 2002; 13: 1509-1513.
47. **Jang MH**, Shin MC, Shin HS, Kim KH, Park HJ, Kim EH, Kim CJ. Alcohol induces apoptosis in TM3 mouse Leydig cells via bax-dependent caspase-3 activation. **Eur J Pharmacol** 2002; 449: 39-45.
48. **Jang MH**, Shin MC, Lim BV, Chung JH, Kang HS, Kang SA, Choue RW, Kim EH, Kim CJ. Nicotine administration decreases nitric oxide synthase expression in the hypothalamus of food-deprived rats. **Neurosci Lett** 2002; 322: 29-32.
49. **Jang MH**, Shin MC, Kim EH, Kim CJ. Acute alcohol intoxication decreases cell proliferation and nitric oxide synthase expression in dentate gyrus of rats. **Toxicol Lett** 2002; 133: 255-262.

50. **Jang MH**, Lee TH, Shin MC, Bahn GH, Kim JW, Shin DH, Kim EH, Kim CJ. Protective effect of Hypericum perforatum Linn (St. John's wort) against hydrogen peroxide-induced apoptosis on human neuroblastoma cells. **Neurosci Lett** 2002; 329: 177-180.
51. **Jang MH**, Shin MC, Lee TH, Kim YP, Jung SB, Shin DH, Kim H, Kim SS, Kim EH, Kim CJ. Alcohol and nicotine administration inhibits serotonin synthesis and tryptophan hydroxylase expression in dorsal and median raphe of young rats. **Neurosci Lett** 2002; 329: 141-144.
52. **Jang MH**, Shin MC, Chung JH, Shin HD, Kim Y, Kim EH, Kim CJ. Effects of Puerariae radix on cell proliferation and nitric oxide synthase expression in dentate gyrus of alcohol-intoxicated Sprague-Dawley rats. **Jpn J Pharmacol** 2002; 88: 355-358.
53. **Jang MH**, Kim H, Shin MC, Lim BV, Lee TH, Jung SB, Kim CJ, Kim EH. Administration of Folium mori extract decreases nitric oxide synthase expression in the hypothalamus of streptozotocin-induced diabetic rats. **Jpn J Pharmacol** 2002; 90: 189-192.
54. Kim SH, Kim HB, **Jang MH**, Lim BV, Kim YJ, Kim YP, Kim SS, Kim EH, Kim CJ. Treadmill exercise increases cell proliferation without altering of apoptosis in dentate gyrus of Sprague-Dawley rats. **Life Sci** 2002; 71: 1331-1340.
55. Lee KS, Lim BV, **Jang MH**, Shin MC, Lee TH, Kim YP, Shin HS, Cho WY, Kim H, Shin MS, Kim EH, Kim CJ. Hypothermia inhibits cell proliferation and nitric oxide synthase expression in rats. **Neurosci Lett** 2002; 329: 53-56.
56. Ra SM, Kim H, **Jang MH**, Shin MC, Lee TH, Lim BV, Kim CJ, Kim EH, Kim KM, Kim SS. Treadmill running and swimming increase cell proliferation in the hippocampal dentate gyrus of rats. **Neurosci Lett** 2002; 333: 123-126.
57. Kim EH, Kim Y, **Jang MH**, Lim BV, Kim YJ, Chung JH, Kim CJ. Auricular acupuncture decreases neuropeptide Y expression in the hypothalamus of food-deprived Sprague-Dawley rats. **Neurosci Lett** 2001; 307: 113-116.
58. Lim BV, **Jang MH**, Shin MC, Kim HB, Kim YJ, Kim YP, Chung JH, Kim H, Shin MS, Kim SS, Kim EH, Kim CJ. Caffeine inhibits exercise-induced increase in tryptophan hydroxylase expression in dorsal and median raphe of Sprague-Dawley rats. **Neurosci Lett** 2001; 308: 25-28.

Review articles & Book chapters

1. Nevins S*, McLoughlin C*, Oliveros A*, Stein J., Rashid MA., Hou Y., **Jang MH**#, Lee KB#. Nanotechnology Approaches to Investigate Chemotherapy-Induced Neurotoxicity, Neuropathy, and Cardiomyopathy in Breast and Ovarian Cancer Survivors, **Small** 2023 (*in press*).
2. Berg DA, Cho KO, **Jang MH**#. Editorial: Adult neurogenesis as a regenerative strategy for brain repair. **Front Mol Neurosci.** 2022 Oct 26;15:1041009. doi: 10.3389/fnmol.2022.1041009. PMID: 36385760; PMCID: PMC9644215.
3. Peyton L*, Oliveros A*, Choi DS#, **Jang MH**#. Hippocampal regenerative medicine: Neurogenic implications for addiction and mental disorders. **Experimental & Molecular Medicine** 2021 (Invited review, *Accepted*).
4. Hussaini SMQ#, **Jang MH**#. New Roles for Old Glue: Astrocyte Function in Synaptic Plasticity and Neurological Disorders. **Int Neurol J.** 2018 Oct;22(Suppl 3):S106-114. doi: 10.5213/inj.1836214.107. Epub 2018 Oct 31. PubMed PMID: 30396259; PubMed Central PMCID: PMC6234728 (Review).

5. Hussaini SMQ, **Jang MH**[#]. BubR1 and brain aging. **Aging** (Albany NY). 2017 Oct 2;9(9):1955-1956. doi: 10.18632/aging.101300. PubMed PMID: 29017149; PubMed Central PMCID: PMC5636667 (Review).
6. Hussaini SMQ[#], Choi CI, Cho CH, Kim HJ, Jun H, **Jang MH**[#]. Wnt signaling in neuropsychiatric disorders: ties with adult hippocampal neurogenesis and behavior. **Neurosci Biobehav Rev** 2014, doi: 10.1016/j.neubiorev.2014.09.005. PMID: 25263701 (Review).
7. Hussaini Q*, Jun H*, Cho CH, Kim HJ, Kim WR, **Jang MH**[#]. Heat-Induced Antigen Retrieval: An Effective Method to Detect and Identify Progenitor Cell Types during Adult Hippocampal Neurogenesis. **J. Vis. Exp.** 2013, 30 (78) (Invited Review) (PMID: 24022759).
8. Jun H, Hussaini Q, Rigby MJ, **Jang MH**[#]. Functional role of adult hippocampal neurogenesis as a novel strategy for mental disorders. **Neural Plasticity** (Invited Review) 2012, 854285, doi: 10.1155/2012/854285 (PMID: 23346419).
9. Hussaini SMQ, **Jang MH**[#]. Adult Hippocampal Neurogenesis and Mental Disorders: Building a Neurobiological Understanding toward Therapeutic Benefit. Mental Disorder. iConcept Press. (Book Chapter)
10. **Jang MH**, Song H, Ming GL. Adult Neurogenesis. Regulation of adult neurogenesis by neurotransmitters. Cold Spring Harbor Laboratory press (Monograph Series) (invited book chapter 19, 397-423; 2008).

Manuscripts pending or in preparation

1. Oliveros A., Poleschuk M, Cole PD, Boison D[#], **Jang MH**[#]. Chemobrain: An Accelerated Aging Process Linking Adenosine A_{2A} Receptor Signaling in Cancer Survivors (*manuscript submitted*).
2. Rashid MA*, Tang JJ*, Kim SH, Yoo KH, Oliveros A, Corujo-Ramirez A, Hawse JR, Cole PD, **Jang MH**[#]. Cyclooxygenase-2 inhibitor ameliorates cisplatin-induced cognitive impairments (*manuscript in preparation*)
3. Yang Z*, Cho CH*, Yoo KH, Hussaini SMQ, Song H, Ming GL, Jang MH[#]. sFRP3 overexpression impairs dentate gyrus formation and cognitive function (*manuscript in preparation*).

Selected Invited Speakers

2007. 3	Baltimore Life Science Association (BLSA) monthly seminar, MD, USA
2008. 8	Korea Institute of Oriental Medicine, South Korea
2009. 7	Baltimore Life Science Association (BLSA) monthly seminar, MD, USA
2010. 10	ASAN Medical Center, South Korea
2010. 10	62 nd annual meeting of Korean Society of Pharmacology and Physiology, South Korea
2010. 10	Korea Advanced Institute of Science and Technology (KAIST), South Korea
2010. 11	The Christopher Reeve Hot Topics Symposium at Society for Neuroscience, San Diego, USA
2010. 11	Mayo Clinic, Department of Neurologic Surgery, MN, USA
2010. 12	Columbia University, Department of Environmental Health Science, NY, USA
2011. 2	Keystone Symposia on the topic of adult neurogenesis, USA
2011. 2	BLSA on the topic of career development, MD, USA
2011. 2	National Institution Mental Health, MD, USA
2011. 3	University of Central Florida, Orlando, FL, USA
2011. 3	University of Pittsburgh, Department of Psychiatry, Pittsburgh, PA, USA
2011. 5	University of Florida, Department of Neuroscience, FL, USA
2012. 6	Kyung Hee University, South Korea
2012. 6	ASAN Medical Center, South Korea

2012. 6 Korea Advanced Institute of Science and Technology (KAIST), South Korea
 2012. 6 Sungkunkwan University, South Korea
 2012. 9 Mayo Clinic-Karolinska Institute conference, Rochester, MN, USA
 2013. 10 Mayo Clinic, Jacksonville, FL, USA
 2014. 5 UKC 2014, Stem cells & Development Session, San Francisco, CA, USA
 2014. 11 Special lecturer at Society for Exercise Rehabilitation, South Korea
 2014. 11 Kyung Hee University Medical School, South Korea
 2015. 1 Gachon University Gil hospital, South Korea
 2015. 5 Korean Society Biochemistry and Molecular Biology (KSBMB), South Korea
 2016. 3 Adult Neurogenesis Conference, Cancun, Mexico (declined due to the family issue)
 2016. 4 International Neuroscience Winter Conference in Soelden, Austria (declined)
 2018. 5 Augusta University, Augusta, GA, USA
 2019. 2 Daegu Gyeongbuk Institute of Science and Technology (DGIST), South Korea
 2020. 1 Department of Neurology, RINT, Rutgers University, Piscataway, NJ, USA
 2020. 1 SUNY Buffalo, Buffalo, NY, USA
 2020. 2 Glenn Biggs Institute, University of Texas Health San Antonio (UTHSA), TX, USA
 2020. 5 Preclinical Therapeutics Grants Branch (PTGB) at the Developmental Therapeutics Program (DTP), NIH/NCI, MD, USA (Virtual)
 2020. 10 Department of Neurosurgery and Brain Health Institute, Rutgers University, NJ, USA (Virtual)
 2020. 11 Department of Cellular and Integrative Physiology, UTHSA, TX, USA (Virtual)
 2021. 3 Annual Neurosurgery Symposium, Rutgers University, NJ, USA (Virtual)
 2021. 11 Department of Biology, the University of Texas at San Antonio, TX, USA (Virtual)
 2021. 12 Rutgers CINJ, Research Cafe, NJ, USA (Virtual)
 2022. 3 Rutgers CINJ Cancer Pharmacology Research Meeting, NJ, USA (Virtual)
 2022. 3 Annual Neurosurgery Symposium, Rutgers University, NJ, USA (Virtual)
 2022. 5 Department of Neurobiology and Behavior, Stony Brook University, NY, USA (Virtual)
 2022. 8 Research seminar at Rutgers Cancer Survivorship and Outcomes Center (CSOC) (Virtual)
 2022. 8 3rd Association of Korean Neuroscientists (AKN) Research Symposium
 2022. 11 Department of Biological Sciences at Rutgers University-Newark
 2023. 3 Veterans Affairs New Jersey Health Care

Research Support

ACTIVE

1. R01 AG058560 (Jang) 03/15/2018-12/31/2023 3.60 calendar
 NIH/NIA
 Title: Role of BubR1 as a juvenile protective factor in hippocampal aging.
 The major goal is to determine the role of BubR1 in age-related declines in neurogenesis, synaptic plasticity and cognitive function.
 Role: PI

2. R01 CA242158 (Jang) 08/08/2019-07/31/2024 3.60 calendar
 NIH/NCI
 Title: PQ#12; Targeting Nampt-mediated NAD⁺ metabolism in chemobrain.
 The major goals of this project are to determine if genetically or pharmacologically increasing NAD⁺ levels can prevent chemotherapy-induced impairments in neurogenesis, oligodendrogenesis, myelination and cognitive function in both young vs. aged mice. In addition, this project will also evaluate if increasing NAD⁺ levels has a detrimental impact on anti-neoplastic activity of chemotherapy using three clinically relevant cancer patient-derived xenograft (PDX) mouse models.
 Role: PI

2-1. R01 CA242158-02S1 (Jang) 08/01/2020-07/31/2024 2.40 calendar
 NIH/NCI (Research Supplements)

Title: Targeting NAD⁺ metabolism in cancer survivors who are prone to develop AD.
The major goal of this supplement is to determine if depletion of NAD⁺ levels by chemotherapy contributes to early onset of Alzheimer's disease (AD), and thus represents a novel therapeutic target for cancer survivors who are prone to develop AD pathogenesis and its related dementia
Role: PI

2-2. R01 CA242158-02S2 (Jang) 08/01/2021-07/31/2024 0 calendar
NIH/NCI (Research Supplements to Promote Diversity in Health-Related Research)
Title: Targeting Nampt-mediated NAD⁺ metabolism in chemobrain.
Role: PI

3. CDMRP, Department of Defense (Jang and Lee) 07/01/2023-06/30/2027 2.4 calendar
OC220235P1
Title: Development of New Therapeutic Strategies of Chemobrain for Ovarian Cancer Survivors.
Role: Contact PI

Pending

R01 CA272181-01 (Jang) - 17% and Impact Score 32 07/01/2023-06/30/2028 3.60 calendar
NIH/NCI
Title: Targeting Adenosine 2A Receptor in chemobrain.
Role: PI

R21 CA277419-01 (Multiple PIs: Jang and Boison) - 11% and Impact Score 28 2.40 calendar
NIH/NCI
Title: Targeting ADK metabolism in chemobrain
Role: PI

CDMRP, Department of Defense (Jang) 07/01/2024-06/30/2027 2.4 calendar
Title: Development of New Therapeutic Strategies of Chemobrain for Lung Cancer Survivors.
Role: PI
***Pre-application has been selected to submit the full application.**

R01 CA272181-01 (Multiple PIs: Jang and Cole) 3.60 calendar
NIH/NCI
Title: Identification of novel biomarkers and preventative strategies in chemobrain
Role: PI

COMPLETED

1. NIH Pathway to Independence Award (K99) NIH/NIMH Jang (PI) 5/1/2010 - 3/31/2012
Title: Role of sFRP3-dependent regulation of adult neurogenesis in antidepressant action.
Role: PI

2. R00MH090115 Jang (PI) 4/1/2012 - 3/31/2015
NIH/MIMH
Title: Role of sFRP3-dependent regulation of adult neurogenesis in antidepressant action.
Role: PI

3. Research Grant from Whitehall Foundation Jang (PI) 9/1/2013 – 8/31/2016
Title: Activity-dependent regulation of newborn neurons in adult brain.
Role: PI

- 4. 2010 NARSAD Young Investigator Award** Jang (PI) 7/15/2011 – 7/14/2013
 Title: Characterization of adult hippocampal neurogenesis in various DISC1 animal models
 Role: PI
- 5. Fraternal Order of Eagles Funds for Cancer Research** Jang (PI) 9/1/2012 – 8/31/2013
 Title: Characterization of adult hippocampal neurogenesis modulated by chemotherapy drugs
 Role: PI
- 6. Accelerated Regenerative Medicine Award from Mayo** Jang (PI) 7/1/2013 – 12/31/2013
 Title: Optogenetic stimulation to accelerate neuronal regeneration.
 Role: PI
- 7. Career Development Award, Mayo Clinic Center for Regenerative Medicine** 1/1/2014 – 12/31/2015
 Title: Promoting functional recovery in ischemic stroke using iPSC-derived neural stem cells
 Role: PI
- 8. RMM 102516 005** Jang (PI) 03/01/2017-02/28/2019
 Regenerative Medicine Minnesota
 Title: Role of checkpoint kinase in myelin regeneration.
 Role: PI
- 9. Development Research Project Award** Jang (PI) 09/01/2017-08/31/2019
 NIH/NCI (R50CA116201 – Mayo Clinic Breast Cancer SPORE)
 Title: Neural stem cell to repair chemobrain
 The major goals of this project are to study the effect of chemotherapy in neural stem cell development in young mice.
 Role: PI
- 10. 2016 Postdoctoral Fellowships Regenerative Medicine Award** (Ki Hyun Yoo, a post-doc fellow in my lab)
 4/1/2016 – 3/31/2018
 Title: Investigating a novel strategy for promoting myelin regeneration.
 Role: Mentor
- 11. R01 AG058560-S1 (Jang)** 09/01/2018-12/31/2018 2.40 calendar
 NIH/NIA (Research Supplements)
 Title: Targeting sFRP3 as a new therapeutic strategy in AD.
 The major goal is to determine the role of sFRP3 in Alzheimer's disease.
 Role: PI
- 12. R01 AG058560-S2 (Jang)** 06/01/2019-05/30/2021 0 calendar
 NIH/NIA (Research Supplements to Promote Diversity in Health-Related Research)
 Title: Role of BubR1 as a juvenile protective factor in hippocampal aging.
 The goal for this supplement is to support diversity post-bac student to gain experience in aging research and become a more competitive applicant for MD/PhD programs.
 Role: PI
- 13. Eagles 5th District Cancer Telethon Funds for Cancer Research** (Jang & Windebank)
 09/1/2019 – 8/31/2020 0.1 calendar
 Title: Targeting COX-2 as a novel therapy for chemobrain
 The goal of this project is to test the effect of COX-2 inhibitor in chemotherapy-induced cognitive dysfunction.
 Role: PI
- 14. R01NS88260** (Su-Youne Chang at Mayo Clinic) 02/01/2015-01/31/2021 0.60 calendar
 NIH/NINDS

Title: Astrocytic function in DBS for essential tremor
Role: Co-I

15. RMM 091718 DS 005 (Jang) 04/01/2019-03/31/2021 0.60 calendar
Regenerative Medicine Minnesota
Title: Targeting adenosine A_{2A} receptor as a novel regenerative therapy in improving chemobrain.
Role: PI

16. R01NS105894 (Raymond Koehler at Johns Hopkins) 09/30/2018-06/30/2023 0.60 calendar
NIH/NINDS
Title: Wnt signaling in stroke.
Role: Co-I

17. 19-40-60-OLIV (Alfredo Oliveros, a post-doctoral fellow in my lab) 07/01/2019-06/30/2021
2019 The Bosarge Family Foundation-Waun Ki Hong Scholar Award for Regenerative Cancer Medicine from
American Association for Cancer Research (AACR)
Title: Caffeine as a novel Adora2a regenerative strategy for treating chemobrain.
Role: Mentor

18. Cancer Survivorship Research Center's Pilot Award (Jang and Boison) 1/1/2022-12/31/2022
Rutgers CINJ
Title: Targeting adenosine kinase as a promising therapeutic strategy in chemobrain
Role: PI