

## CURRICULUM VITAE

Jong-Ho Cha, Ph.D.

### Personal information

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**Current position:** Assistant Professor

**Working address:** Department of Biomedical Sciences, College of Medicine,  
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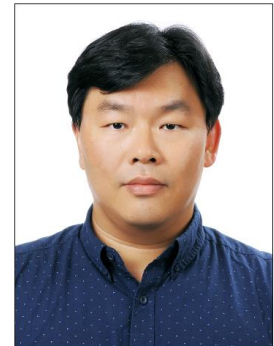
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### Education

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Mar. 1998 - Feb. 2005.      Kyung Hee University, South Korea  
B.S. - Genetic Engineering  
(Apr. 2000 – Jun. 2002. Military Service in Army, South Korea)

Mar. 2005 - Feb. 2013      Seoul National University, South Korea  
Ph.D. - Molecular Biology and Genetics (The Integrated MA/Ph.D. Course)  
(Supervisor: Kyu-Won Kim, Ph.D.)

### Professional Training

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Mar. 2013 - Oct. 2014      Postdoctoral fellow  
NeuroVascular Protection Research Center  
Department of Pharmacy, Seoul National University, South Korea  
(Supervisor: Kyu-Won Kim, Ph.D.)

Nov. 2014 - Oct. 2016      Senior researcher  
Tumor Microenvironment Global Core Research Center.  
College of Pharmacy and Research Institute of Pharmaceutical Sciences,  
Seoul National University, South Korea  
(Supervisor: Young-Joon Surh, Ph.D.)

Nov. 2014 – Jul. 2019      Postdoctoral Fellow  
Department of Molecular and Cellular Oncology,  
MD Anderson Cancer Center, The University of Texas, USA  
(Supervisor: Mien-Chie Hung, Ph.D.)

## Professional Experience

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Sep. 2019 - Present                      Assistant Professor  
Department of Biomedical Sciences,  
College of Medicine,  
Inha University, South Korea

## Peer-Reviewed Publications

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### **\*First author paper**

1. **Cha JH**, Chan LC, Li CW, Hus J, Hung MC. Mechanisms controlling PD-L1 expression in cancer. *Molecular Cell*. 2019 Nov. 7; 76:1-12 (**IF: 14.248, JCR: 1.71%**)
2. **Cha JH**, Chan LC, Hsu J, Hung MC. New approaches for immunotherapy targeting cancer metastasis. *Cold Spring Harbor Perspectives in Medicine*. 2019 Oct 15. pii: a036863. (**IF: 3.979, JCR: 24.81%**)
3. **Cha JH\***, Yang WH\*, Xia W, Wei Y, Chan LC, Lim SO, Li CW, Kim T, Chang SS, Lee HH, Hsu J, Wang HL, Kuo CW, Chang WC, Hadad S, Purdie CA, McCoy AM, Cai S, Yu Y, Litton KJ, Mittendorf EA, Moulder SL, Symmans WF, Thompson AM, Piwnica-worms H, Chen CH, Khoo KH, Hung MC. Metformin promotes antitumor immunity via endoplasmic reticulum-associated degradation of PD-L1. (\*Co-first) *Molecular Cell*. 2018;71(4):606-620. (**IF: 14.248, JCR: 1.71%**)
4. Yang WH\*, **Cha JH\***, Lee HH, Wang YN, Xia W, Hung MC. Juxtacrine signaling inhibits antitumor immunity by upregulating PD-L1 expression. (\*Co-first) *Cancer Research*. 2018;78(14):3761-3768. (**IF: 9.130, JCR: 7.66%**)
5. **Cha JH**, Kim KW "Standby" EMT and "immune cell trapping" structure as novel mechanisms for limiting neuronal damage after CNS injury. *Neural Regeneration Research*. 2014;9(23): 2032-5. (**IF: 2.234**)
6. **Cha JH**, Wee HJ, Seo JH, Ahn BJ, Park JH, Yang JM, Lee SW, Lee OH, Lee HJ, Gelman IH, Arai K, Lo EH, Kim KW. Prompt meningeal reconstruction by oxygen-sensitive AKAP12 scaffolding protein after CNS injury. *Nature Communications*. 2014;5:4952. (**IF: 12.353, JCR: 4.69%**)
7. **Cha JH**, Wee HJ, Seo JH, Ahn BJ, Park JH, Yang JM, Lee SW, Kim EH, Lee OH, Heo JH, Lee HJ, Gelman IH, Arai K, Lo EH, Kim KW. AKAP12 mediates barrier functions of fibrotic scars during CNS repair. *PLoS One*. 2014;9(4):e94695. (**IF: 2.776, JCR: 23.44%**)

### **\*Co-author paper**

1. Chan LC, Li CW, Xia W, Hsu JM, Lee HH, **Cha JH**, Wang HL, Yang WH, Yen EY, Zha Z, Lim SO, Lai YJ, Liu J, Liu C, Dong Q, Yang Y, Sun L, Wei Y, Nie L, Hsu J, Li H, Ye Q, Hassan M, Amin H, Kaseb AO, Lin X, Wang SC, Hung MC. IL-6/JAK1 drives PD-L1 Y112 phosphorylation to promote cancer immune evasion. *The Journal of Clinical Investigation*. 2019 Jul 15;129(8):3324-3338 (**IF: 13.251, JCR: 3.00%**)

2. Choi YK, Park JH, Yun JA, **Cha JH**, Kim Y, Won MH, Kim KW, Ha KS, Kwon YG, Kim YM. Heme oxygenase metabolites improve astrocytic mitochondrial function via a Ca<sup>2+</sup>-dependent HIF-1 $\alpha$ /ERR $\alpha$  circuit. *PLoS One*. 2018;13(8):e0202039. (IF: 2.776, JCR: 23.44%)
3. Yang Y, Li CW, Chan LC, Wei Y, Hsu JM, Xia W, **Cha JH**, Hou J, Hsu JL, Sun L, Hung MC. Exosomal PD-L1 harbors active defense function to suppress T cell killing of breast cancer cells and promote tumor growth. *Cell Research*. 2018;28(8):862-864. (IF:15.393, JCR: 5.26%)
4. Hsu JM, Xia W, Hsu YH, Chan LC, Yu WH, **Cha JH**, Chen CT, Liao HW, Hsu JL, Li CW, Lim SO, Chang SS, Chen YC, Ren GX, Hung MC, Khoo KH. STT3-dependent PD-L1 accumulation on cancer stem cells promotes immune evasion. *Nature Communications*. 2018;9(1):1908. (IF: 12.353, JCR: 4.69%)
5. Li CW, Lim SO, Chung EM, Kim YS, Park AH, Yao J, **Cha JH**, Xia W, Chan LC, Kim T, Chang SS, Lee HH, Chou CK, Liu YL, Yeh HC, Perillo EP, Dunn AK, Kuo CW, Khoo KH, Hus JL, Wu Y, Hsu JM, Yamaguchi H, Yao J, Sahin AA, Hortobagyi GN, Yoo SS, Hung MC. Eradication of triple-negative breast cancer cells by targeting glycosylated PD-L1. *Cancer Cell*. 2018;33(2):187-201. (IF: 22.844, JCR: 3.15%)
6. Le H, Ahn BJ, Lee HS, Shin A, Chae S, Lee SY, Shin MW, Lee EJ, **Cha JH**, Son T, Seo JH, Wee HJ, Lee HJ, Jang Y, Lo EH, Jeon S, Oh GT, Kim D, Kim KW. Disruption of Ninjurin1 leads to repetitive and anxiety-like behaviors in mice. *Molecular Neurobiology*. 2017;54 (9):7353-68. (IF: 5.076, JCR: 16.87%)
7. Lim SO, Li CW, Xia W, **Cha JH**, Chan LC, Wu Y, Chang SS, Lin WC, Hsu JM, Hsu YH, Kim T, Chang WC, Hsu JL, Yamaguchi H, Ding Q, Wang Y, Yang Y, Chen CH, Sahin AA, Yu D, Hortobagyi GN, Hung MC. Deubiquitination and Stabilization of PD-L1 by CSN5. *Cancer Cell*. 2016;30(6):925-939. (IF: 22.844, JCR: 3.15%)
8. Li CW, Lim SO, Xia W, Lee HH, Chan LC, Kuo CW, Khoo KH, Chang SS, **Cha JH**, Kim T, Hsu JL, Wu Y, Hsu JM, Yamaguchi H, Ding Q, Wang Y, Yao J, Lee CC, Wu HJ, Sahin AA, Allison JP, Yu D, Hortobagyi GN, Hung MC. Glycosylation and stabilization of programmed death ligand-1 suppresses T-cell activity. *Nature Communications*. 2016;7:12632. (IF: 12.353, JCR: 4.69%)
9. Lee HS, Lee SH, **Cha JH**, Seo JH, Ahn BJ, Kim KW. Meteorin is upregulated in reactive astrocytes and functions as a negative feedback effector in reactive gliosis. *Molecular Medicine Reports*. 2015;12(2):1817-23. (IF: 1.922)
10. Seo JH, Park JH, Lee EJ, Vo TT, Choi H, Jang JK, Wee HJ, Ahn BJ, **Cha JH**, Shin MW, Kim KW. Autoacetylation regulates differentially the roles of ARD1 variants in tumorigenesis. *International Journal of Oncology*. 2015;46(1):99-106. (IF: 3.333)
11. Park JH, Seo JH, Wee HJ, Vo TT, Lee EJ, Choi H, **Cha JH**, Ahn BJ, Shin MW, Bae SJ, Kim KW. Nuclear translocation of hARD1 contributes to proper cell cycle progression. *PLoS One*. 2014 ;9(8):e105185. (IF: 2.776, JCR: 23.44%)
12. Ahn BJ, Le H, Shin MW, Bae SJ, Lee EJ, Lee SY, Yang JH, Wee HJ, **Cha JH**, Seo JH, Lee HS, Lee HJ, Arai K, Lo EH, Jeon S, Oh GT, Kim WJ, Ryu JK, Suh JK, Kim KW. Ninjurin1 enhances the basal motility and transendothelial migration of immune cells by inducing protrusive membrane dynamics. *Journal of Biological Chemistry*. 2014;289(32):21926-36. (IF: 4.010, JCR: 25.68%)

13. Ahn BJ, Le H, Shin MW, Bae SJ, Lee EJ, Wee HJ, **Cha JH**, Lee HJ, Lee HS, Kim JH, Kim CY, Seo JH, Lo EH, Jeon S, Lee MN, Oh GT, Yin GN, Ryu JK, Suh JK, Kim KW. Ninjurin1 deficiency attenuates susceptibility of experimental autoimmune encephalomyelitis in mice. *Journal of Biological Chemistry*. 2014;289(6):3328-38. (IF: 4.010, JCR: 25.68%)
14. Chang DJ, An H, Kim KS, Kim HH, Jung J, Lee JM, Kim NJ, Han YT, Yun H, Lee S, Lee G, Lee JS, **Cha JH**, Park JH, Park JW, Lee SC, Kim SG, Kim JH, Lee HY, Kim KW, Suh YG. Design, synthesis, and biological evaluation of novel deguelin-based heat shock protein 90 (HSP90) inhibitors targeting proliferation and angiogenesis. *Journal of Medicinal Chemistry*. 2012 ;55(24):10863-84. (IF: 6.253, JCR: 5.08%)
15. Ahn BJ, Le H, Shin MW, Bae SJ, Lee EJ, Wee HJ, **Cha JH**, Park JH, Lee HS, Lee HJ, Jung H, Park ZY, Park SH, Han BW, Seo JH, Lo EH, Kim KW. The N-terminal ectodomain of Ninjurin1 liberated by MMP9 has chemotactic activity. *Biochemical and Biophysical Research Communications*. 2012;428(4):438-44. (IF: 2.559)
16. Seo JH, **Cha JH**, Park JH, Jeong CH, Park ZY, Lee HS, Oh SH, Kang JH, Suh SW, Kim KH, Ha JY, Han SH, Kim SH, Lee JW, Park JA, Jeong JW, Lee KJ, Oh GT, Lee MN, Kwon SW, Lee SK, Chun KH, Lee SJ, Kim KW. Arrest defective 1 autoacetylation is a critical step in its ability to stimulate cancer cell proliferation. *Cancer Research*. 2010;70(11):4422-32. (IF: 9.130, JCR: 7.66%)
17. Lee HJ, Jeong CH, **Cha JH**, Kim KW. PKC-delta inhibitors sustain self-renewal of mouse embryonic stem cells under hypoxia in vitro. *Experimental and Molecular Medicine*. 2010;42(4):294-301. (IF: 5.584, JCR: 11.28%)
18. Yoon DK, Jeong CH, Jun HO, Chun KH, **Cha JH**, Seo JH, Lee HY, Choi YK, Ahn BJ, Lee SK, Kim KW. AKAP12 induces apoptotic cell death in human fibrosarcoma cells by regulating CDKI-cyclin D1 and caspase-3 activity. *Cancer Letter*. 2007;254(1):111-8. (IF: 6.491, JCR: 12.61%)
19. Park CH, Lee J, Jung HY, Kim MJ, Lim SH, Yeo HT, Choi EC, Yoon EJ, Kim KW, **Cha JH**, Kim SH, Chang DJ, Kwon DY, Li F, Suh YG. Identification, biological activity, and mechanism of the anti-ischemic quinolone analog. *Bioorganic & Medicinal Chemistry*. 2007;15(20):6517-26. (IF: 2.881)
20. Jeong CH, Lee HJ, **Cha JH**, Kim JH, Kim KR, Yoon DK, Kim KW. Hypoxia-inducible factor-1 alpha inhibits self-renewal of mouse embryonic stem cells in Vitro via negative regulation of the leukemia inhibitory factor-STAT3 pathway. *Journal of Biological Chemistry*. 2007;282(18):13672-9. (IF: 4.010, JCR: 25.68%)

## **Patent**

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1. Kim KW, **JH Cha**. Composition comprising expression of activity regulators of AKAP12 for treating central nerve system diseases. 2015 Jul. 28, Patent No; US9089554 B2

## **Academic Award and Honor**

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1. 2019. Recognition of *Molecular Cell* paper (Cha *et al*, 2019) as a high impact paper by Biological Research Information Center Research Information Center (BRIC)

2. 2018. Recognition of *Molecular Cell* paper (Cha *et al*, 2018) as a high impact paper by Biological Research Information Center Research Information Center (BRIC)
3. 2014. Recognition of *Nat Commun.* paper (Cha *et al*, 2014) as a high impact paper by Biological Research Information Center Research Information Center (BRIC)
4. Nov. 2014 - Oct. 2016. Global Core Research Center post-doctoral fellowship (National Research Foundation of Korea grant; MSIP; 2011-0030001)
5. Feb. 2007 – Feb. 2010 Brain Korea 21 (BK21) Scholarship, South Korea
6. 2004. Academic achievement scholarship, South Korea
7. 2003. Academic achievement scholarship, South Korea
8. 1999. Academic achievement scholarship, South Korea

## **Presentation**

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### **Invited Oral Presentations**

1. 2019. Metformin promotes antitumor immunity via endoplasmic-reticulum-associated degradation of PD-L1. Biomedical Sciences Research Institute, College of Medicine, Inha University.
2. 2018. Metformin promotes antitumor immunity via endoplasmic-reticulum-associated degradation of PD-L1. Department of life science, Hanyang University, Seoul, South Korea.
3. 2018. Metformin promotes antitumor immunity via endoplasmic-reticulum-associated degradation of PD-L1. Laboratory of Carcinogenesis and Drug Resistance, College of Pharmacy, Seoul National University, Seoul, South Korea
4. 2018. Metformin promotes antitumor immunity via endoplasmic-reticulum-associated degradation of PD-L1. College of Pharmacy, Sookmyung Women's University, Seoul, South Korea
5. 2018. Metformin promotes antitumor immunity via endoplasmic-reticulum-associated degradation of PD-L1. College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University, Seoul, South Korea
6. 2015. PD-L1, an attractive target of cancer immunotherapy. College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University, Seoul, South Korea
7. 2014. AKAP12 the tumor suppressor regulates EMT. The Shanghai Cancer Institute (SCI), Shanghai, China
8. 2014. Prompt reconstruction of meningeal barrier after CNS injury. Seminar, Department of life science, Hanyang University, Seoul, South Korea
9. 2014. Prompt reconstruction of meningeal barrier after CNS injury, Seminar, Severance Integrative Research Institute for Cerebral & Cardiovascular Diseases (SIRC), Yonsei University Medical Center (YUMC), Seoul, South Korea

### **Poster Presentations**

1. 2019. The regulatory mechanism of PD-L1 level through ER-associated degradation. AACR Georgia USA
2. 2018. Metformin is a potential non-toxic adjuvant to enhance the efficacy of non-PDL1/PD-1 targeting immune therapies. AACR Special Conference on Tumor Immunology and Immunotherapy, Miami, USA
3. 2013. The role of AKAP12 in the reconstruction process of meningeal barrier after CNS injury. International Brain Barrier Society Meeting, Istanbul, Turkey
4. 2011. The role of AKAP12 in repairing injured brain barrier. 25th International Symposium on Cerebral Blood Flow, Metabolism and Function conference. Barcelona, Spain
5. 2010. PKC- $\delta$  is critical for the stability of Hif-1 $\alpha$ . International Conference of Korean Society for Molecular & Cellular Biology. Seoul, South Korea

### **Teaching experience**

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| 1. Sep.2019 - present    | Department of Biomedical Sciences, College of Medicine, Inha University                     |
| 2. Mar. 2012 - Aug. 2012 | Graduate teaching associate, Department of Pharmacy, Seoul National University, South Korea |
| 3. Mar. 2006 - Aug. 2006 | Graduate teaching assistant, Department of Pharmacy, Seoul National University, South Korea |

### **Mentoring Activity**

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1. Present - 2014 Li-Chuan Chan, Graduate Student, The University of Texas Graduate School of Biomedical Sciences, Houston, USA (Current: Ph.D. course)
2. 2014 - 2013 Hae-Jin Boo, Graduate Student, College of Pharmacy, Seoul National University, Seoul, South Korea (Current: Ph.D. course)
3. 2014 - 2012 Jun-mo Yang, Graduate Student, College of Pharmacy, Seoul National University, Seoul, South Korea (Current: Ph.D. course)
4. 2012 -2010 Ji-Hyun Park, Graduate Student, College of Pharmacy, Seoul National University, Seoul, South Korea (Current: Postdoctoral Researcher, Seoul National University)

### **Websites**

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1. LinkedIn: <https://www.linkedin.com/in/jong-ho-cha-590aa0134>
2. Research Gate: [https://www.researchgate.net/profile/Jong\\_Ho\\_Cha](https://www.researchgate.net/profile/Jong_Ho_Cha)

### **Reference**

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1. **Mien-Chie Hung**, Ph.D. : President, China Medical University 91, Hsueh-shih RD, Taichung, Taiwan, 40402, R.O.C Phone: 886-4-22057153, Fax: 886-4-22060248, E-mail: [mhung@mail.cmu.edu.tw](mailto:mhung@mail.cmu.edu.tw)

2. **Kyu-Won Kim**, Ph.D. : Professor Emeritus, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University, Daehak-dong, Gwanak-gu, Seoul, Korea, 151-742, Phone: 82-2-880-6988, Fax: 82-2-872-1795, E-mail: qwonkim@snu.ac.kr
3. **Young-Joon Surh**, Ph.D. : Director & Professor, Tumor Microenvironment Global Core Research Center. College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University, Daehak-dong, Gwanak-gu, Seoul, Korea, 151-742, Phone: 82-2-880-7845, Fax: 82-2-883-2906, E-mail: surh@snu.ac.kr
4. **Ho-Young Lee**, Ph.D. : Professor, College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University, Daehak-dong, Gwanak-gu, Seoul, Korea, 151-742, Phone: 82-2-880-9277, E-mail: hylee135@snu.ac.kr