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Last update on October 21, 2022

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Education

Apr 2012 - Jan 2016 Ph.D., University of Queensland (Australia), Neuroscience (advisor: Prof. Charles Claudianos, Ph.D.)
Mar 2010 - Dec 2011 M.S. (Adv), University of Queensland (Australia), Molecular Biology
Mar 2005 - Feb 2010 B.Sc., Konkuk University (South Korea), Molecular Biotechnology

Professional Experience

Sep 2022 - Present Associate Professor, Korea University
Mar 2019 - Aug 2022 Assistant Professor, Korea University
Dec 2015 - Jan 2019 Postdoctoral Scholar, UCSF (advisor: A/Prof. Stephan Sanders, MD/Ph.D.)

*Featured Publications (First Author only; *co-first, **co-corresponding authors)*

1. Choi L, **An JY**, Genetic architecture of autism spectrum disorder: Lessons from large-scale genomic studies, ***Neuroscience and Biobehavioral Reviews***, 128:244-257, 2021

2. Werling DW*, Pochareddy S*, JM Choi*, **An JY***, Peng M, Sheppard BS, Peng M, Li Z, Dastmalchi C, Santperebaro G, Sousa A, Tebbenkamp A, Kaur N, Gulden F, Breen M, Liang L, Gilson M, Zhao X, Dong S, Klei L, Cicek AE, Buxbaum JD, Adle-Biassette H, Thomas JL, Aldinger KA, O'Day DR, Glass I, Zaitlen N, Talkowski ME, Roeder K, Devlin B, Sanders SJ**, Sestan N**, Whole-genome and RNA sequencing reveal variation and transcriptomic coordination in the developing human prefrontal cortex, ***Cell Reports***, 2020

3. **An JY***, Lin K*, Zhu L*, Werling DM*, Dong S, Brand H, Wang HZ, Zhao X, Schwartz GB, Collins RL, Currall BB, Dastmalchi C, Dea J, Duhn C, Gilson MC, Klei L, Liang L, Markenscoff-papadimitriou E, Pochareddy S, Ahituv N, Buxbaum JD, Coon H, Daly MJ, Kim YS, Marth GT, Neale BM, Quinlan AR, Rubenstein JL, Sestan N, State MW, Willsey AJ, Talkowski ME**, Devlin B**, Roeder K**, Sanders SJ**, Genome-wide de novo risk score implicates promoter variation in autism spectrum disorder, ***Science***, 2018

4. Werling DM*, Brand H*, **An JY***, Stone MR*, Zhu L*, Glessner JT, Collins RL, Dong S, Layer RM, Markenscoff-Papadimitriou E, Farrell A, Schwartz GB, Wang HZ, Currall BB, Zhao X, Dea J, Duhn C, Erdman CA, Gilson MC, Yadav R, Handsaker RE, Kashin S, Klei L, Mandell JD, Nowakowski TJ, Liu Y, Sirisha Pochareddy S, Smith L, Walker MF, Waterman MJ, He X, Kriegstein AR, Rubenstein JL, Sestan N, McCarroll SA, Neale BM, Coon H, Willsey AJ, Buxbaum JD, Daly MJ, State MW, Quinlan AR, Marth GT, Roeder K, Devlin B**, Talkowski M**, Sanders SJ**, An analytical framework for whole genome sequence data and its implications for autism spectrum disorder, ***Nature Genetics***, 50:727736, 2018

5. Williams SM*, **An JY***, Edson J, Watts M, Murigneux V, Whitehouse AJO, Jackson CJ, Bellgrove MA, Cristino AS**, Claudianos C**, An integrative analysis of non-coding regulatory DNA variations associated with autism spectrum disorder, ***Molecular Psychiatry***, 2018

*Publications (*co-first, **corresponding authors)*

1. Jang WE, Park JH, Park G, Bang G, Na CH, Kim JY, Kim KY, Kim KP, Shin CY, **An JY**, Lee YS, Kim MS, Cntnap2-dependent molecular networks in autism spectrum disorder revealed through an integrative multi-omics analysis, ***Molecular Psychiatry***, 2022

2. Lee T, Lee H, Kim S, Park K, **An JY**, Kim HW, Risk variants could inform early neurodevelopmental outcome in children with developmental disabilities, ***Journal of Autism and Developmental Disorders***, 2022

3. Kim IB, Lee T, Lee J, Kim J, Lee S, Koh IG, Kim JH, **An JY**, Lee H, Kim WK, Ju YS, Cho Y, Yu SJ, Kim SA, Oh M, Han DW, Kim E, Choi JK, Yoo HJ, Lee JH, Non-coding de novo mutations in chromatin interactions are implicated in autism spectrum disorder, ***Molecular Psychiatry***, 2022

4. Oh J*, Hwa C*, Jang D, Shin S, Lee SJ, Kim J, Lee SE, Jung HR, Oh Y, Jang G, Kwon O, **An JY****, Cho SY**, Augmentation of the RNA m6A reader signature is associated with poor survival by enhancing cell proliferation and EMT across cancer types, ***Experimental and Molecular Medicine***, 2022

5. Jang Y, Kwak E, **An JY**, Jung JH., Infantile esotropia in a family with TUBB3 mutation associated congenital fibrosis of extraocular muscles, ***Ophthalmic Genetics***, 2022

6. Georgakopoulos-Soares I*, Victorino J*, Parada GE*,Agarwal V, Zhao J, Yuen WH, Umar MI, Elor O, Muhwezi A, **An JY**, Sanders SJ, Kwok CK, Inoue F**, Hemberg M**, Ahituv N**, High-throughput characterization of the role of non-B DNA motifs, ***Cell Genomics***, 2022

7. Liang L, Darbandi SF, Pochareddy S, Gulden FO, Gilson MC, Sheppard BK, Sahagun A, **An JY**, Werling DM, Rubenstein JR, Sestan N, Bender K, Sanders SJ, Developmental dynamics of voltage-gated sodium channel isoform expression in the human and mouse brain, ***Genome Medicine***, 2021

8. Kim YG, Bak MS, Kim A, Kim Y, Chae YC, Kim YL, Chun YS, **An JY**, Seo SB, Kim SJ, Lee YS, Kdm3b haploinsufficiency impairs the consolidation of cerebellum-dependent motor memory in mice, ***Molecular Brain***, 2021

9. Kim HJ, Kim JY, Jung CW, Lee YS, **An JY**, Kim EH, Kim KH, Lee SP, Park JY**, Park MJ**, ANO1 regulates maintenance of stemness in glioblastoma stem cells by stabilizing EGFRvIII, ***Oncogene***, 2021

10. Hu B, Won H, Mah W, Park RB, Kassim B, Spiess K, Kozlenkov A, Crowley CA, Pochareddy S; PSYCHENCODE CONSORTIUM (including **An JY**), Li Y, Dracheva S, Sestan N, Akbarian S, Geschwind DH, Neuronal and glial 3D chromatin architecture informs the cellular etiology of brain disorders, ***Nature Communication***, 2021

11. Jung HR, Oh Y, Na D, Min S, Kang J, Jang D, Shin S, Kim J, Lee SE, Jeong EM, **An JY**, Sung CO, Lee WS, Lee C, Cho SY, CRISPR screens identify a novel combination treatment targeting BCL-X L and WNT signaling for KRAS/BRAF-mutated colorectal cancers, ***Oncogene***, 2021

12. **An JY***, Jung JH, Choi L, Wiegen ED, Mohney BG, Identification of risk genes of familial strabismus using an exome sequencing analysis, ***Genes***, 2021

13. Kim SW, Kim YJ, Kim SE**, **An JY****, Ferroptosis-Related Genes in Neurodevelopment and Central Nervous System, ***Biology***, 2021

14. Lowther C, Brand H, Currall BB, Giordano JL, Aggarwal VS, Whang HZ, Zhao X, Lucente D, Margolin L, Werling DM, **An JY**, Dong S, Sanders SJ, Devlin B, Gilmore K, Powell B, Brandt A, O'Donnell-Luria AH, Lennon NJ, Goldstein DB, Rehm HL, Vora NL, MacArthur DG, Levy B, Wapner R, Talkowski ME, Systematic evaluation of genome sequencing as a first-tier diagnostic test for prenatal and pediatric disorders, ***bioRxiv***, 2020

15. Satterstrom FK*, Kosmicki JA*, Wang J*, Breen MS*, De Rubeis S*, **An JY**, Peng M, Collins R, Grove J, Klei L, Stevens C, Reichert J, Mulhern MS, Artomov M, Gerges S, Sheppard B, Xu X, Bhaduri A, Norman U, Brand H, Schwartz G, Nguyen R, Guerrero EE, Dias C; Autism Sequencing Consortium; iPSYCH-Broad Consortium, Betancur C, Cook EH, Gallagher L, Gill M, Sutcliffe JS, Thurm A, Zwick ME, Brglum AD, State MW, Cicek AE, Talkowski ME, Cutler DJ, Devlin B, Sanders SJ**, Roeder K**, Daly MJ**, Buxbaum JD**, Large-scale exome sequencing study implicates both developmental and functional changes in the neurobiology of autism, ***Cell***, 2020

16. Genc O, **An JY**, Fetter RD, Kulik Y, Zunino G, Sanders SJ, Davis GW, Homeostatic Plasticity Commonly Fails at the Intersection of Autism-Gene Mutations and a Novel Class of Common Phenotypic Modifier, ***eLife***, 2020

17. Kim YJ, **An JY****, Spatio-temporal roles of ASD-associated variants in human brain development, ***Genes***, 2020

18. **An JY**, Lin K, Zhu L, Werling DW, Dong S, Brand H, Wang HZ, Zhao X, Sestan N, State MW, Willsey AJ, Talkowski ME, Bernie Devlin B**, Roeder K**, Sanders SJ**, Insights into the contribution of rare noncoding variation in autism spectrum disorder through family-based whole genome sequencing, ***European Neuropsychopharmacology***, 2019

19. Lowther C, Brand H, Currall BB, Giordano JL, Aggarwal VS, Whang HZ, Zhao X, Lucente D, Margolin L, Werling DM, **An JY**, Dong S, Sanders SJ, Devlin B, Gilmore K, Powell B, Brandt A, O'Donnell-Luria AH, Lennon NJ, Goldstein DB, Rehm HL, Vora NL, MacArthur DG, Levy B, Wapner R, Talkowski ME,Systematic evaluation of prenatal and pediatric diagnostic yields from whole-genome sequencing in 8,954 individuals, ***European Neuropsychopharmacology***, 2019

20. Werling DW, Pochareddy S, JM Choi, **An JY**, Peng M, Sheppard BS, Peng M, Gulden F, Breen M, Talkowski ME, Roeder K, State MW, Devlin B, Sanders SJ, Sestan N, BrainVar dataset: Whole-genome and RNA sequencing reveal variation and transcriptomics coordination in the developing human prefrontal cortex, ***European Neuropsychopharmacology***, 2019

21. Gandal MJ, Zhang P, Hadjimichael E, Walker RL, Chen C, Liu S, Won H, Bakel HV, Varghese M, Wang Y, Shieh AW, Haney J, Parhami S, Belmont J, Kim M, Losada PM, Khan Z, Mleczko J, Xia Y, Dai R, Wang D, Yang YT, Xu M, Fish K, Hof PR, Warrell J, Fitzgerald D, White K, Jaffe AE, PSYCHENCODE CONSORTIUM (including **An JY**), Peters MA, Gerstein M, Liu C, Iakoucheva LM, Pinto D, Geschwind DH, Transcriptome-wide isoform-level dysregulation in ASD, schizophrenia, and bipolar disorder, ***Science***, 2018

22. Wang D, Liu S, Warrell J, Won H, Shi X, Navarro FCP, Clarke D, Gu M, Emani P, Yang YT, Xu M, Gandal MJ, Lou S, Zhang J, Park JJ, Yan C, Rhie SK, Manakongtreecheep K, Zhou H, Nathan A, Peters M, Mattei E, Fitzgerald D, Brunetti T, Moore J, Jiang Y, Girdhar K, Hoffman GE, Kalayci S, Gm ZH, Crawford GE, PSYCHENCODE CONSORTIUM (including **An JY**), Roussos P, Akbarian S, Jaffe AE, White KP, Weng Z, Sestan N, Geschwind DH, Knowles JA, Gerstein MB, Comprehensive functional genomic resource and integrative model for the human brain, ***Science***, 2018

23. Amiri A, Coppola G, Scuderi S, Wu F, Roychowdhury T, Liu F, Pochareddy S, Shin Y, Safi A, Song L, Zhu Y, Sousa AMM, PSYCHENCODE CONSORTIUM (including **An JY**), Gerstein M, Crawford GE, Sestan N, Abyzov A, Vaccarino FM, Transcriptome and epigenome landscape of human cortical development modeled in organoids, ***Science***, 2018

24. Li M, Santpere G, Kawasawa YI, Evgrafov OV, Gulden FO, Pochareddy S, Sunkin SM, Li Z, Shin Y, Zhu Y, Sousa AMM, Werling DM, Kitchen RR, Kang HJ, Pletikos M, Choi J, Muchnik S, Xu X, Wang D, Lorente-galdos B, Liu S, Giusti-rodrguez P, Won H, Leeuw CAD, Pardias AF, BRAINSPAN CONSORTIUM, PSYCHENCODE CONSORTIUM (including **An JY**), PSYCHENCODE DEVELOPMENTAL SUBGROUP, Hu M, Jin F, Li Y, Owen MJ, ODonovan MC, Walters JTR, Posthuma D, Levitt P, Weinberger DR, Hyde TM, Kleinman JE, Geschwind DH, Hawrylycz MJ, State MW, Sanders SJ, Sullivan PF, Gerstein MB, Lein ES, Knowles JA, Sestan N, Integrative functional genomic analysis of human brain development and neuropsychiatric risks, ***Science***, 2018

25. Sanders SJ, Neale BM, Huang H, Werling DM, **An JY**, Dong S, Abecasis G, Arguello PA, Blangero J, Boehnke M, Daly MJ, Eggan K, Geschwind DH, Glahn DC, Goldstein DB, Gur RE, Handsaker RE, McCarroll SA, Ophoff RA, Palotie A, Pato CN, Sabatti C, State MW, Willsey AJ, Hyman SE, Addington AM, Lehner T, Freimer NB and Whole Genome Sequencing for Psychiatric Disorders, Whole genome sequencing in psychiatric disorders: the WGSPD consortium, ***Nature Neuroscience***, 20:16611668, 2017

26. Ben-Shalom R, Keeshen CM, Berrios NK, **An JY**, Sanders SJ, Bender KJ, Opposing effects on $Na_V1.2$ function underlie differences between *SCN2A* variants observed in individuals with autism spectrum disorder or infantile seizures, ***Biological Psychiatry***, 82(3):224-232, 2017

27. **An JY**, Sanders SJ, Appreciating the Population-wide Impact of Copy Number Variants on Cognition, ***Biological Psychiatry***, 82(2):78-80, 2017

28. Collins RL, Brand H, Redin CE, Hanscom C, Antolik C, Stone MR, Glessner JT, Mason T, Pregno G, Dorrani N, Mandriele G, Giachino D, Perrin D, Walsh C, Cipicchio M, Costello M, Stortchevoi A, **An JY**, Currall BB, Seabra CM, Ragavendran A, Margolin L, Martinez-Agosto J, Lucente D, Levy B, Sanders SJ, Wapner RJ, Quintero-Rivera F, Kloosterman W, Talkowski M, Defining the spectrum of large inversions, complex structural variation, and chromothripsis in the morbid genome, ***Genome Biology***, 18(1):36, 2017

29. **An JY**, National human genome projects: an update and an agenda, ***Epidemiology and Health***, 39, 2017

30. **An JY**, Claudianos C, Genetic heterogeneity in autism: From single gene to a pathway perspective, ***Neuroscience and Biobehavioral Reviews***, 68:442453, 2016

31. **An JY**, Cristino AS, Zhao Q, Edson J, Williams SM, Marshall VM, Ravine D, Wray J, Hunt A, Whitehouse AJO, Claudianos C, Towards molecular diagnosis of Autism Spectrum Disorders: An exome sequencing and systems approach, ***Translational Psychiatry***, 4(6):e394, 2014

32. Cristino AS, Williams SM, Hawi Z, **An JY**, Bellgrove MA, Schwartz CE, Costa LDF, Claudianos C, Neurodevelopmental and neuropsychiatric disorders represent an interconnected molecular system, ***Molecular Psychiatry***, 19(3):294, 2014

Awards and Fellowships

2022 Young Scientist Travel Awards 2020, The Japan Neuroscience Society
2020 Young Scientist Travel Awards 2020, The Japan Neuroscience Society
2019 Young Investigator Research Awards 2019, International Society for Autism Research
2018 Autism Science Foundation Post-Doctoral Fellowship (co-funded by the FamilieSCN2A Foundation)
2014 PhD Research Grant for Autism, The APEX Foundation Trust

Scientific Activities and Academic Service

2021-2024 Editorial Board (Computational Biology session), eLife
2021-2024 Editorial Board (Neurogenomics session), Molecular Brain
2021-2024 Editorial Board, Experimental and Molecular Medicine
2021-2024 Editorial Board, Molecules and Cells
2021-Present Grant Review Panel, Israel Science Foundation
2020-Present Grant Review Panel, Wellcome Trust Foundation
2020-2021 Global Representative Initiative Early Career Committee, International Society of Autism Research
2019-2021 Committee member, Korea Genome Organization
2019-2021 Committee member, Korean Society For Molecular and Cellular Biology
2014-Present *Ad hoc* peer reviewer, *Biological Psychiatry*, *BMC Genomics*, *eLife*, *JAMA*, *Molecular Autism*, *Molecular Brain*, *Nature Communications*, *PLOS Genetics*, *Translational Psychiatry*