

Sookja Kim Chung

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Biography

Professor Chung is a member of Faculty of Medicine (FMD), M.U.S.T. and Dr. Neher's Biophysics Laboratory for Innovative Drug Discovery. She graduated from the University of Illinois College of Medicine with a doctoral degree and worked at Northwestern University Medical Center, and The Rockefeller University in New York. She also worked at The University of Hong Kong as the Investigator of Institute of Molecular Biology and Professor in the School of Biomedical Sciences, where she was the coordinator of MBBS Histology teaching and served as the coordinator of postgraduate program and a member of Medical Faculty Higher Degree Committee. She trained number of postgraduate students and junior academic staff, who became successful in the field of Biomedical Sciences. She also taught at the Hong Kong Baptist University in Zhuhai before joining FMD, where she coordinate Yr. 1 and Yr. 2 program and pathology (Biomedical Sciences). She is also a member of the State Key Laboratory of Pharmaceutical Biotechnology, HKU.

Academic Qualification

1987 Ph.D., Department of Anatomy and Cell Biology, University of Illinois College of Medicine, Chicago, U.S.A.

1981 M.A., Department of Chemistry, University of Illinois at Chicago, Chicago, U.S.A.

1978 B.A., Double Major in Biology & Chemistry, Lewis University, Lockport, IL, U.S.A.

Teaching Area

Undergraduate: Coordinator for MBBS Yr.1 & Yr. 2; Pathology (Coordinator for Yr.1 & Yr.2, MBBS); Histopathology (MBBS); Histology (MBBS, TCM, Nursing, Pharmacy, Biomedical Sciences, & Biomedical Engineering); Gross Anatomy (MBBS, Nursing); Pathophysiology (Postgraduate, MN); Mystery of Materials (GE); Introduction to Biomedicine (GE); Nutrition & disease prevention (FS); Food toxicology (FS); Food microbiology (FS)

Postgraduate supervision for MPhil, Master's and PhD in the area of Biomedical Sciences

Research Area

- Genetically engineered animal models & OMIC studies for human diseases
- Cellular osmotic, oxidative, inflammatory and ischemic stress
- Pathogenesis of diabetic and ischemic complications
- Neurodegenerative diseases (stroke, depression, Parkinson's & Alzheimer's diseases)
- Potential drug discovery from natural and synthetic compounds
- Stem cells biology and therapy against diabetes & neurodegenerative diseases

Working Experience

2019-Present: Professor, Macau University of Science and Technology, Macau

2018-2019: Professor, United International College, Zhuhai, China

2015- 2018: Professor, School of Biomedical Sciences, The University of Hong Kong, HK

2006–2015: Professor, Department of Anatomy, The University of Hong Kong, HK

2005–2006: Associate Professor, Department of Anatomy (Mapped as Associate Professor, equivalent to Investigator to Anatomy Dept. due to Administrative reorganization) The University of Hong Kong, Hong Kong, SAR, China

1998- 2005: Honorary Associate Professor, Department of Anatomy, The University of Hong Kong, Hong Kong, SAR, China

1992–2005: Investigator, Institute of Molecular Biology, May, 2001 substantiated, The University of Hong Kong, Hong Kong, China

1991-1998: Honorary Lecturer, Department of Anatomy, The University of Hong Kong, Hong Kong, China

1991-1992: Research Officer, Institute of Molecular Biology, The University of Hong Kong, Hong Kong, SAR, China

June, 1988 – Mar., 1991 Winston Foundation Fellow, Laboratory of Neurobiology and Behavior, Rockefeller University, New York, N.Y., USA

Feb., 1987 - May, 1988 NIH Postdoctoral Fellow, Department of Physiology, Northwestern University Medical Center, Chicago, IL, USA

Books

1. McCarty MM, Chung SK, Ogawa S, Kow LM, Pfaff DW: Behavioral effects of oxytocin: Is there a unifying principle? In Vassopressin. S. Jard, R. Jamison, Eds Colloque Inserm 208: 195-212, 1991
2. So KF, Ng TF, Chung SK: The relationship of the expression of GAP-43 and the axonal regeneration of retinal ganglion cells in adult mammals. In Perspective in

Neuroscience Research, 137-152, Editors: Tan, C.K., Ling, E.A., Tan, C.B.C., 1996
3. Chung SK, Chung SSM: Transgenic and knockout mouse models of diabetic neuropathy in The clinical management of diabetic neuropathy, Clinical Management, Second edition, pp 51- 67, Editors: Aristidis Veves and Rayaz A. Malik, Invited book chapter, 2007

Patents

- 1.Sookja Kim Chung, Stephen Chung and Chihiro Hibi, Preventive or therapeutic agent for cerebral ischemic injury or cerebral ischemia reperfusion in stroke, Filed on Aug 30, 2007, Patent No. 000144577
2. Sookja Kim Chung, Stephen Chung and Chihiro Hibi, Protective agent for retinal nerve or optic nerve, Patent Application 20100216856, 08/26/2010
- 3.Ip, Nancy Y, Ip, Fanny Chui Fun, Hu, Yueqing, Han, Yifan, Chung, Sookja Kim Heterodimers and methods of using them, United States Patent 7605265, Oct 20, 2009
- 4.Sookja Kim Chung, Stephen Chung and Chihiro Hibi, Protective agent for retinal nerve or optic nerve, European Patent Application, 13155114.5-1464, 23.04.13
- 5.Sookja Kim Chung and Philip So: 3D printing of microneedles: 201910278559.3
- 6.Licensing of aldose reductase-deficient Schwann cell line (IKARS1) in collaboration with Prof. Kazunori Sango, Japan to Applied Biological Materials Inc. ("Licensee"), with offices located at 1-3671 Viking Way Richmond, B.C.V6V 2J5 Canada.

Professional Certification and Awards

- Norman and Rosita Winston Fellowship (1988-1991), The Rockefeller University
- Academic Scholarship (1974 - 1978), Lewis University
- International Molecular Biology Network, elected member

Professional Society Membership

Society for Neurosciences; American Association for the Advancement of Science; The Rockefeller University Chapter of the Society of Sigma X; American Diabetes Association; The New York Academy of Science; Hong Kong Society for Neuroscience; Korean Society for Neuroscience

Academic Publication (selected)

197 full papers in ISI listed international journals (3 book chapters; 4 invited review articles); 242 conference papers):

List of 2020 to now: Selected

1. So, WK., Kim, H.K., Chen, Y. Seung Hun Jeong, Patrick Ka Kit Yeung, Billy C. K. Chow,

Jin Han & Sookja K. Chung, Pflügers Archiv - European Journal of Physiol. Exchange protein directly activated by cAMP (Epac) 1 plays an essential role in stress-induced exercise capacity by regulating PGC-1 α and fatty acid metabolism in skeletal muscle. Pflügers Arch - Eur J Physiol 472, 195–216 (2020). <https://doi.org/10.1007/s00424-019-02344-6>

2. Mi, XS, Feng, Q, Lo, ACY, Chang, RCC, Chung, SK, So, KF, Lycium barbarum polysaccharides related RAGE and A beta levels in the retina of mice with acute ocular hypertension and promote maintenance of blood retinal barrier. Neural Regeneration Research [1673-5374], Published Dec 2020, Volume 15, Issue 12, Pages 2344-2352

3. Min Joung Lee, Yunseon Jang, Jeongsu Han, Soo J Kim, Xianshu Ju, Yu Lim Lee, Jianchen Cui, Jiebo Zhu, Min Jeong Ryu, Song-Yi Choi, Woosuk Chung, Chaejeong Heo, Hyon-Seung Yi, Hyun Jin Kim, Yang H Huh, Sookja K Chung, Minho Shong, Gi-Ryang Kweon, Jun Young Heo, Endothelial-specific Crif1 deletion induces BBB maturation and disruption via the alteration of actin dynamics by impaired mitochondrial respiration, J Cerebral Blood Flow and Metabolism, <https://doi.org/10.1177/0271678X19900030> (IP 6.04)

4. Roy Chun-Laam Ng, Min Jian, Myriam Bunting, Oscar Ka-Fai Ma, Jason Kwan, Guang-Jie Zhou, Krishnamoorthi Senthilkumar, Ashok Iyaswamy, Min LI, Kenneth Mei-Yee Leung, Siva-Sundara Durairajan, Karen Lam, Sookja Kim Chung, Ping Kei CHAN, Leung Wing CHU, and Richard Festenstein, Koon-Ho Chan, Chronic oral administration of AdipoRon reverses cognitive impairments and ameliorates neuropathology in an Alzheimer's disease mouse model" [Paper #2019MP000320RRR] MOLECULAR PSYCHIATRY[1359-4184], Published 2020 (Impact factor 12.384)

5. Boya Liao, Leiluo Geng, Ling Wei, Karen S.L. Lam, Sookja K. Chung, Patrick K.K. Yeung, Junlei Chang, Aimin Xu, Kai Wang, Ruby L.C. Hoo, Macrophage Derived A-FABP Promotes Cerebral Ischemia Injury via Enhancing MMP-9 Expression through JNK/c-Jun pathway, European Heart Journal [1522-9645], Published 2020, Pages 1-13 <https://doi.org/10.1093/eurheartj/ehaa207> (Impact factor 22.673)

6. Gu, Pan, Fan, Tingting, Wong, Stanley, Pan, Zhiqiang, Tai, Wai, Chung, Sookja, Cheung, Chiwai, Central Endothelin-1 Confers Analgesia by Triggering Spinal Neuronal Histone Deacetylase 5 (HDAC5) Nuclear Exclusion in Peripheral Neuropathic Pain in Mice, 2021/01/06, The Journal of Pain 10.1016/j.jpain.2020.12.004

7. Zhang, Kai, Ip, Chi, Chung, Sookja, Lei, Kei Kei, Zhang, Yao, Liu, Liang, Wong, Vincent, Drug-resistance in rheumatoid arthritis: the role of p53 gene mutations, ABC family transporters and personal factors, Current opinion in pharmacology Sept 2020, 54:59-71, DOI: 10.1016/j.coph.2020.08.002

- 8 Llin Peng, Minzhen Deng, Yan Huang, Shuang Wu, Yucheng Cao, Zhijie Gao, Xiaoli Wu, Lihua Zhou, Sookja Kim Chung, Jingbo Sun, Xiao Cheng. Scutellarin acts on the AR-NOX Axis to Remediate Oxidative Stress Injury in a Mouse Model of Cerebral Ischemia/Reperfusion Injury, Preprint, 10.21203/rs.3.rs-471790/v1
9. Rui Hong Chen*, Li Jun Yang*, Sami Hamdoun, Sookja Kim Chung, Christopher Wai-kei Lam, Kai Xi Zhang, Xiaoling Guo, Chenglai Xia, Betty Yuen Kwan Law# and Vincent Kam Wai Wong#, 1,2,3,4,6-Pentagalloyl glucose, a RBD-ACE2 binding inhibitor to prevent SARS-CoV-2 infection, *Pharmacol*, 12:634176. doi: 10.3389/fphar.2021.634176.
10. Yeung SC, Ganesan K, Wong SSC, Chung SK, Cheung CW. Characterization of acute pain-induced behavioral passivity in mice: Insights from statistical modeling. *Eur J Neurosci*. 2021 May;53(9):3072-3092. doi: 10.1111/ejn.15174. Epub 2021 Mar 18. PMID: 33675141
11. Xuewei Xia, Huili Hao, Xiaoyong Zhang, Nam Wong, Sookja Kim Chung, Zexin Chen, Baojun Xue, Riming Huang, Immunomodulatory sulfated polysaccharides from *Caulerpa racemosa* var. *peltata* induces metabolic shifts in NF- κ B signaling pathway in RAW 264.7 macrophages, *International Journal of Biological Macromolecules*, Volume 182, 1 July 2021, Pages 321-332
12. Xiaoyu Tao, Dong Chen, Rining Liang, Xiaoyu Zhang, Xi Yu, Sookja Chung, Yaqin Yu, Ying Xiao. A comparative study on knowledge towards COVID-19 prevention among undergraduate students in Macao and Zhuhai, China. *PeerJ*. 2021 Aug 3;9:e11833. doi: 10.7717/peerj.11833. eCollection 2021.
13. Naoko Niimi *, Hideji Yako, Shizuka Takaku, Sookja K. Chung, Kazunori Sango, Aldose reductase and the polyol pathway in Schwann cells: old and new problems, *Int. J. Mol. Sci.* ('Molecular Pathology, Diagnostics, and Therapeutics' Section), 2021, 22(3), 1031; <https://doi.org/10.3390/ijms22031031>
14. de Seabra Rodrigues Dias IR, Lo HH, Zhang K, Law BYK, Nasim AA, Chung SK, Wong VKW, Liu L. Potential therapeutic compounds with antiarthritic activity from traditional Chinese Medicine by targeting endoplasmic reticulum stress, *Pharmacol Res*. 2021 Aug;170:105696. doi: 10.1016/j.phrs.2021.105696. Epub 2021 May 28. PMID: 34052360
15. Wen JIANG, LI Jie, Yan HUANG, Jing-bo SUN, Min-zhen DENG, Yue-fang CAI, Sookja Kim Chung, Xiao CHENG. Isoflurane Attenuates Cerebral Ischemia/reperfusion Injury by Improving Mitochondrial Function via Aldose Reductase. *JOURNAL OF SUN YAT-SEN UNIVERSITY (MEDICAL SCIENCES)*, 2021/9/20, Vol. 42, Issue 5, 721
16. Zhang D, Hamdoun S, Chen R, Yang L, Ip CK, Qu Y, Li R, Jiang H, Yang Z, Chung SK, Liu L, Wong VKW. Identification of natural compounds as SARS-CoV-2 entry inhibitors by molecular docking-based virtual screening with bio-layer interferometry.

Pharmacol Res. 2021 Oct;172:105820. doi: 10.1016/j.phrs.2021.105820. Epub 2021 Aug 14. PMID: 34403732

17.Zeng W, Wu AG, Zhou XG, Khan I, Zhang RL, Lo HH, Qu LQ, Song LL, Yun XY, Wang HM, Chen J, Ng JPL, Ren F, Yuan SY, Yu L, Tang Y, Huang GX, Wong VKW, Chung SK, Mok SWF, Qin DL, Sun HL, Liu L, Hsiao WLW, Law BYK. Saponins isolated from *Radix polygalae* extend lifespan by modulating complement C3 and gut microbiota. *Pharmacol Res.* 2021 Aug;170:105697. doi: 10.1016/j.phrs.2021.105697. Epub 2021 May 29. PMID: 34062240

18.Xiaoyu Tao, Dong Chen, Yawen Fan, Lanxin Zhang, Houqian Shan, Yi Wei, Xi Yu, Tian Zhong, Ling Wang, Sookja Kim Chung, Yaqin Yu, Ying Xiao., 2021, A cross-sectional study for the mental health status and sleep quality among college students in Macao during the COVID-19 pandemic. *PeerJ* 9:e12520
<https://doi.org/10.7717/peerj.12520>

19.Tao X, Chen D, Fan Y, Zhang L, Shan H, Wei Y, Yu X, Zhong T, Wang L, Chung SK, Yu Y, Xiao Y. A cross-sectional study for the mental health status and sleep quality among college students in Macao during the COVID-19 pandemic. *PeerJ.* 2021 Dec 7;9:e12520. doi: 10.7717/peerj.12520. PMID: 34966578; PMCID: PMC8663623.

20. Lai AKW, Ng TC, Hung VKL, Tam KC, Cheung CW, Chung SK, Lo ACY. Exacerbated VEGF up-regulation accompanies diabetes-aggravated hemorrhage in mice after experimental cerebral ischemia and delayed reperfusion. *Neural Regen Res.* 2022 Jul;17(7):1566-1575. doi: 10.4103/1673-5374.330612. PMID: 34916442

21.Pei Cao, Lei Zhang, Yang Yang, Xiao-dan Wang, Zhao-ping Liu, Jian-wen Li, Li-yuan Wang, Sookja Chung, Moqin Zhou, Ke Deng, Ping-ping Zhou, Ping-gu Wu, Analysis of furan and its major furan derivatives in coffee products on the Chinese market using HS-GC-MS and the estimated exposure of the Chinese population. *Food Chemistry*, Available online 26 March 2022, 132823

22.Deng M, Sun J, Peng L, Huang Y, Jiang W, Wu S, Zhou L, Chung SK, Cheng X. Scutellarin acts on the AR-NOX axis to remediate oxidative stress injury in a mouse model of cerebral ischemia/reperfusion injury. *Phytomedicine.* 2022 Aug;103:154214. doi: 10.1016/j.phymed.2022.154214. Epub 2022 May 29. PMID: 35689902.

23.Liu J, Tsang JKW, Fung FKC, Chung SK, Fu Z, Lo ACY. Retinal microglia protect against vascular damage in a mouse model of retinopathy of prematurity. *Front Pharmacol.* 2022 Aug 17;13:945130. doi: 10.3389/fphar.2022.945130. PMID: 36059936; PMCID: PMC9431881.

24. Yang L, Liu J, Xia X, Wong IN, Chung SK, Xu B, El-Seedi HR, Wang B, Huang R. Sulfated heteropolysaccharides from *Undaria pinnatifida*: Structural characterization and transcript-metabolite profiling of immunostimulatory effects on RAW264.7 cells.

Food Chem X. 2022 Feb 9;13:100251. doi: 10.1016/j.fochx.2022.100251. Erratum in: Food Chem X. 2022 Feb 24;13:100264. PMID: 35498964; PMCID: PMC9040004.

25. Lai AKW, Ng TC, Hung VKL, Tam KC, Cheung CW, Chung SK, Lo ACY. Exacerbated VEGF up-regulation accompanies diabetes-aggravated hemorrhage in mice after experimental cerebral ischemia and delayed reperfusion. *Neural Regen Res*. 2022 Jul;17(7):1566-1575. doi: 10.4103/1673-5374.330612. PMID: 34916442; PMCID: PMC8771109.

26. Tao X, Shao Y, Xu D, Huang Y, Yu X, Zhong T, Wang L, Chung SK, Chen D, Yu L, Xiao Y. Dietary Patterns and Nutrient Intake in University Students of Macao: A Cross-Sectional Study. *Nutrients*. 2022 Sep 3;14(17):3642. doi: 10.3390/nu14173642. PMID: 36079899; PMCID: PMC9460302.

27. Virwani PD, Cai L, Yeung PKK, Qian G, Chen Y, Zhou L, Wong JWH, Wang Y, Ho JWK, Lau KK, Qian PY, Chung SK. Deficiency of exchange protein directly activated by cAMP (EPAC)-1 in mice augments glucose intolerance, inflammation, and gut dysbiosis associated with Western diet. *Microbiome*. 2022 Nov 4;10(1):187. doi: 10.1186/s40168-022-01366-0. PMID: 36329549; PMCID: PMC9635209.

28. Zhong K, Huang Y, Zilundu PLM, Wang Y, Zhou Y, Yu G, Fu R, Chung SK, Tang Y, Cheng X, Zhou L. Correction: Motor neuron survival is associated with reduced neuroinflammation and increased autophagy after brachial plexus avulsion injury in aldose reductase-deficient mice. *J Neuroinflammation*. 2023 Jan 2;20(1):2. doi: 10.1186/s12974-022-02683-9. Erratum for: *J Neuroinflammation*. 2022 Nov 9;19(1):271. PMID: 36593504; PMCID: PMC9809037.

29. Oaks Z, Patel A, Huang N, Choudhary G, Winans T, Faludi T, Krakko D, Duarte M, Lewis J, Beckford M, Blair S, Kelly R, Landas SK, Middleton FA, Asara JM, Chung SK, Fernandez DR, Banki K, Perl A. Publisher Correction: Cytosolic aldose metabolism contributes to progression from cirrhosis to hepatocarcinogenesis. *Nat Metab*. 2023 Feb;5(2):349. doi: 10.1038/s42255-023-00752-8. Erratum for: *Nat Metab*. 2023 Jan;5(1):41-60. PMID: 36755183.

30. Cheong LY, Wang B, Wang Q, Jin L, Kwok KHM, Wu X, Shu L, Lin H, Chung SK, Cheng KKY, Hoo RLC, Xu A. Fibroblastic reticular cells in lymph node potentiate white adipose tissue beiging through neuro-immune crosstalk in male mice. *Nat Commun*. 2023 Mar 3;14(1):1213. doi: 10.1038/s41467-023-36737-0. PMID: 36869026; PMCID: PMC9984541.

31. Virwani PD, Qian G, Hsu MSS, Pijarnvanit TTKTS, Cheung CN, Chow YH, Tang LK, Tse YH, Xian JW, Lam SS, Lee CPI, Lo CCW, Liu RKC, Ho TL, Chow BY, Leung KS, Tsang HW, Lo EKK, Tung KTS, Chung SK, Yuen MF, Leung SY, Ip P, Hung IF, Louie JCY, El-Nezami H, Ho JWK, Lau KK. Sex Differences in Association Between Gut Microbiome and Essential Hypertension Based on Ambulatory Blood Pressure Monitoring.

- Hypertension. 2023 Jun;80(6):1331-1342. doi: 10.1161/HYPERTENSIONAHA.122.20752. Epub 2023 Apr 19. PMID: 37073724; PMCID: PMC10191209.
32. Zhang J, Cheng H, Di Narzo A, Zhu Y, Xie S, Shao X, Zhang Z, Chung SK, Hao K. Profiling Microbiota from Multiple Sites in the Respiratory Tract to Identify a Biomarker for PM2.5 Nitrate Exposure-Induced Pulmonary Damages. *Environ Sci Technol*. 2023 May 16;57(19):7346-7357. doi: 10.1021/acs.est.2c08807. Epub 2023 May 3. PMID: 37133311
33. Yan Z, Zhong L, Zhu W, Chung SK, Hou P. Chinese herbal medicine for the treatment of cardiovascular diseases — Targeting cardiac ion channels. *Pharmacol Res*. 2023 Apr 18;192:106765. doi: 10.1016/j.phrs.2023.106765. Epub ahead of print. PMID: 37075871.
34. Li J, Jiang W, Cai Y, Ning Z, Zhou Y, Wang C, Chung SK, Huang Y, Sun J, Deng M, Zhou L, Cheng X. Astrocytic endothelin-1 overexpression impairs learning and memory ability in ischemic stroke via altered hippocampal neurogenesis and lipid metabolism. *Neural Regen Res*. 2024 Mar;19(3):650-656. doi: 10.4103/1673-5374.380906. PMID: 37721297.
35. Wang L, Huang B, Zeng Y, Yang J, Li Z, Ng JPL, Xu X, Su L, Yun X, Qu L, Chen R, Luo W, Wang Y, Chen C, Yang L, Qu Y, Zhang W, Chan JTW, Wang X, Law BYK, Mok SWF, Chung SK, Wong VKW. N-Acetylcysteine overcomes epalrestat-mediated increase of toxic 4-hydroxy-2-nonenal and potentiates the anti-arthritic effect of epalrestat in AIA model. *Int J Biol Sci*. 2023 Aug 6;19(13):4082-4102. doi: 10.7150/ijbs.85028. PMID: 37705749; PMCID: PMC10496504.
36. Heo JY, Park AH, Lee MJ, Ryu MJ, Kim YK, Jang YS, Kim SJ, Shin SY, Son HJ, Stein TD, Huh YH, Chung SK, Choi SY, Kim JM, Hwang O, Shong M, Hyeon SJ, Lee J, Ryu H, Kim D, Kweon GR. Correction: Crif1 deficiency in dopamine neurons triggers early-onset parkinsonism. *Mol Psychiatry*. 2023 Oct 2. doi: 10.1038/s41380-023-02254-1. Epub ahead of print. Erratum for: *Mol Psychiatry*. 2023 Aug 30; PMID: 37783789.
37. Winans T, Oaks Z, Choudhary G, Patel A, Huang N, Faludi T, Krakko D, Nolan J, Lewis J, Blair S, Lai Z, Landas SK, Middleton F, Asara JM, Chung SK, Wyman B, Azadi P, Banki K, Perl A. mTOR-dependent loss of PON1 secretion and antiphospholipid autoantibody production underlie autoimmunity-mediated cirrhosis in transaldolase deficiency. *J Autoimmun*. 2023 Sep 22;140:103112. doi: 10.1016/j.jaut.2023.103112. Epub ahead of print. PMID: 37742509
38. Wang X, Hu W, Qu L, Wang J, Wu A, Lo HH, Ng JPL, Tang Y, Yun X, Wu J, Wong VKW, Chung SK, Wang L, Luo W, Ji X, Law BYK. Tricin promoted ATG-7 dependent autophagic degradation of α -synuclein and dopamine release for improving cognitive and motor deficits in Parkinson's disease. *Pharmacol Res*. 2023 Oct;196:106874. doi:

10.1016/j.phrs.2023.106874. Epub 2023 Aug 14. PMID: 37586619.

39. Zhang J, Cheng H, Zhu Y, Xie S, Shao X, Wang C, Chung SK, Zhang Z, Hao K.

Exposure to Airborne PM_{2.5} Water-Soluble Inorganic Ions Induces a Wide Array of Reproductive Toxicity. *Environ Sci Technol*. 2024 Mar 5;58(9):4092-4103. doi:

10.1021/acs.est.3c07532. Epub 2024 Feb 19. PMID: 38373958.