CURRICULUM VITAE

NAME	POSITION TITLE
 **Kuo-I Lin** 林國儀	**Distinguished Research Fellow and Professor** Genomics Research Center, Academia Sinica Taipei, Taiwan Office: +886-2-2787-1253 Email: kuoilin@gate.sinica.edu.tw

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	YEAR(s)	FIELD OF STUDY
Columbia University, New York, NY, US	Post-doc.	2004	Immunology
The Johns Hopkins University, Baltimore, MD, US	Ph.D.	1998	Molecular Microbiology and Immunology
National Taiwan University, Taipei, Taiwan	M.S.	1993	Medical Technology
National Taiwan University, Taipei, Taiwan	B.S.	1991	Medical Technology

A. POSITIONS AND HONORS

Positions and Employment

2022 July- Distinguished Research Fellow, Genomics Research Center, Academia Sinica, Taipei, Taiwan
2014 Dec.- Division Director of Medical Biology, Genomics Research Center, Academia Sinica, Taipei, Taiwan
2014-2022 Research Fellow, Genomics Research Center, Academia Sinica, Taipei, Taiwan
2009-2014 Associate Research Fellow (with tenure), Genomics Research Center, Academia Sinica, Taipei, Taiwan
2004-2009 Assistant Research Fellow, Genomics Research Center, Academia Sinica, Taipei, Taiwan
2019- Adjunct Research Fellow, Biomedical Translational Research Center, Academia Sinica, Taipei, Taiwan
2017- Joint Professor, Institute of New Drug Development, China Medical University, Taichung, Taiwan
2016- Adjunct Professor, Graduate Institute of Immunology, National Taiwan University, Taipei, Taiwan
2010-2016 Adjunct Associate Professor, Graduate Institute of Immunology, National Taiwan University, Taipei, Taiwan

Honors

2024 Chiung-Lin Chen Memorial Award for Translational Medicine, Taiwan

2019 Outstanding Research Achievement to National Health, Ming-Ning Wang Memorial Foundation, Taiwan
2018 Academia Sinica Investigator Award
2016 Outstanding Research Award, Ministry of Science and Technology (MOST), Taiwan
2015 Chair in Biotechnology, Taiwan Bio-Development Foundation, Taiwan
2014 Outstanding Research Award, The Chinese Society of Immunology, Taiwan
2014 Young Scientist Research Award, Tien-Te Lee Biomedical Foundation, Taiwan
2013 Outstanding Research Award, National Science Council (MOST), Taiwan
2010 Academia Sinica Career Development Award
2008 1st ASAIHL-Scopus Young Scientist Award (Winner of Life Sciences)
2005 Li Foundation Heritage Prize
1999-2002 The Leukemia and Lymphoma Society Fellowship
1999 Phi Beta Kappa, The Johns Hopkins University
1995 Betty Lee Hampil Honorary Fellowship, Dept. of Molecular Microbiology & Immunology. The Johns Hopkins University

Professional Membership

1. The American Association of Immunologist (AAI)
2. Chinese Immunology Society (Taiwan)
3. Society for Glycobiology, USA

B. PEER-REVIEWED PUBLICATIONS (in reverse chronological order)

ORCID 0000-0003-4477-0798

PUBLICATIONS

1. Chou, S.-C., Yen, C.-T., Yang, Y.-L., Chen, S.-H., Wang, J.-D., Fan, M.-N., Chen, L.-F., Yu, I-S., Tsai, D.-Y., **Lin, K.-I**, Tao, M.-H., Wu, J.-C., and Lin, S.-W. (2024) Recapitulating the immune system of hemophilia A patients with inhibitors using immunodeficient mice. *Thrombosis Research.* 235:155-163

2. Huang, C.-H., Yang, T.-T. and **Lin, K.-I*.** (2024) Mechanisms and functions of SUMOylation in health and disease: a review focusing on immune cells. *J Biomed Sci.* 31(1):16. ***corresponding author**

3. Huang, H.-W., Chen, C.-C, **Lin, K.-I**, Hsu, T.-L and Wong, C.-H. (2023) Single site N-glycosylation of B cell maturation antigen (BCMA) inhibits gamma-secretase-mediated shedding and improves surface retention and cell survival. *ACS Chemical Biology*. doi: 10.1021/acschembio.3c00592

4. Liu, Z., Wang, J., Shi, Y., Yee, B. A., Terrey, M., Zhang, Q., Lee, J.-C., **Lin, K.-I**, Wang, H.-J. A., Ackerman, S., Yeo, G. W., Cui, H., and Yang, X. L. (2023) Seryl-tRNA synthetase promotes translational readthrough by mRNA binding and involvement of the selenocysteine incorporation machinery. *Nucleic Acids Research.* 51(19):10768-10781.

5. Wang, S.-W., Ko, Y.-A., Chen, C.-Y., Liao, K.-S., Chang, Y.-H., Lee, H.-Y., Yu, Y.-H., Lih, Y.-H., Cheng, Y.-Y., Lin, H.-H., Hsu, T.-L., Wu, C.-Y., **Lin, K.-I*** and Wong, C.-H.* (2023) Mechanism of antigen presentation and specificity of antibody cross-reactivity elicited by an oligosaccharide-conjugate cancer vaccine. *Journal of the American Chemical Society*. 145(17):9840-9849. ***corresponding author**

Research highlight: Provide a new insight into how oligosaccharide glycan-based vaccine is processed by antigen presenting cells. Specifically, we found that Globo-H, a type of glycosphingolipids expressing in many types of cancer cells, can be processed by Fuca1 in early endosome in dendritic cells, thereby generating a new glycan-epitope, SSEA3, to elicit the anti-SSEA3 antibody in immunized mice.

6. Yang, T.-T., Chiang, M.-F., Chang, C.-C., Yang, S.-Y., Huang, S.-W., Liao, N.-S., Shih, H.-M.,

Hsu, W. and **Lin, K.-I*.** (2023) SENP2 restrains the generation of pathogenic Th17 cells in mouse models of colitis. *Communications Biology.* 10;6(1):629. ***corresponding author**

7. Chang, L.-Y., Liang, S.-Y., Lu, S.-C., Tseng, H.-C., Tsai, H.-Y., Tang, C.-J., Sugata, M., Chen, Y.-J., Chen, Y. -J. Wu, S.-J., **Lin, K.-I,** Khoo, K.-H., and Angata, T. (2022) Molecular basis and role of Siglec-7 ligand expression on chronic lymphocytic leukemia B cells. *Frontiers in Immunology*. 13:840388
8. Wu, J.-L., Wu, H.-Y., Wu, S.-J., Tsai, H.-Y., Weng, S.-H., Lin, K.-T., Lin, L.-I., Yao, C.-Y., Zamanova, M., Lee, Y.-Y., Angata, T., Tien, H.-F., Chen, Y.-J.* and **Lin, K.-I*** (2022) Phosphoproteomics reveals the role of constitutive KAP1 phosphorylation by B-cell receptor signaling in chronic lymphocytic leukemia. *Molecular Cancer Research*. 20(8):1222-1232. *(online Featured article)* ***corresponding author**
9. Huang, H.-Y., Liao, H.-Y., Chen, X., Wang, S.-W., Cheng, C.-W., Shahed-Al-Mahmud, M. Chen, T.-H., Lo, J. M., Liu, Y.-M., Wu, Y.-M., Ma, H.-H., Chang, Y.-H., Tsai, H.-Y., Chou, Y.-C., Hsieh, Y.-P., Tsai, C.-Y., Huang, P.-Y., Chang, S.-Y., Chao, T.-L., Kao, H.-C., Tsai, Y.-M., Chen, Y.-H., Wu, C.-Y., Jan, J.-T., Cheng, T.-J. R., **Lin, K.-I***, Ma, C*. and Wong, C.-H.* (2022) Vaccination with SARS-CoV-2 spike protein lacking glycan shields elicits enhanced protective responses in animal models. *Science Translational Medicine*. 14(639):eabm0899 *(online Featured article)* ***corresponding author**
   Research highlight: Understand how the SARS-CoV-2 Spike protein-based vaccine with mono-GlcNAc-decorated state (Smg) works. Isolate the cross variants of concern monoclonal antibodies from the Smg vaccinated mice and study the mode of action of a protectively protective monoclonal antibody, m31A7.
10. Gebreyesus, S. T., Siyal, A. A., Kitata, R. B., Chen, S.-W., Enkhbayar, B., Angata, T., **Lin, K.-I,** Chen, Y.-J. and Tu., S.-L. (2022) Streamlined single-cell proteomics by an integrated microfluidic chip and data-independent acquisition mass spectrometry. *Nature Communications*. 13(1):37.
11. Hsieh, W.-C., Lai, E.-Y., Liu, Y.-T., Wang, Y.-F., Tzeng, Y.-S., Cui, L, Lai, Y.-J., Huang, H.-C., Huang, J.-H., Ni, H.-C., Tsai, D.-Y., Liang, J.-J., Liao, C.-C., Jiang, L, Liu, M.-T., Wang, J.-T., Chang, S.-Y., Chen, C.-Y., Tsai, H.-C., Chang, Y.-M., Wernig, G., Li, C.-W., **Lin, K.-I,** Lin, Y.-L., Tsai, H.-K., Huang, Y.-T. and Chen, S.-Y. (2021) Natural killer receptor and ligand composition influences the clearance of SARS-CoV-2. *Journal of Clinical Investigation*. 131 (21): e146408.
12. Ko, Y.-A., Yu, Y.-H., Wu, Y.-F., Tseng, Y.-C., Chen, C.-L., Goh, K.-S, Liao, H.-Y., Chen, T.-H., Cheng, R. T.-J., Yang, A.-S., Wong, C.-H., Ma, C. and **Lin, K.-I*** (2021) A non-neutralizing antibody broadly protects against influenza virus infection by engaging effector cells. *PLOS Pathogens*. 17(8): e1009724. ***corresponding author**
    Research highlight: Isolate and characterize a broadly protective monoclonal antibody elicited by monoglycosylated hemagglutinin (HAmg)-based vaccine. This monoclonal antibody shows ADCC and ADCP activity through the engagement of Fc receptor on natural killer cells and alveolar macrophages.
13. Lo, L.-W., Chang, C.-W., Chiang, M.-F., Lin, I-Y., and **Lin, K.-I*** (2021) Marginal zone B cells assist with neutrophil accumulation to fight against systemic *Staphylococcus aureus* infection. *Frontiers in Immunology.* 12:636818. doi: 10.3389/fimmu.2021.636818. ***corresponding author**
14. Lee, W., Wang, L.-T., Yen, M.-L., Hsu, P.-J., Lee, Y.-W., Liu, K.-J., **Lin, K.-I,** Su, Y.-W., Sytwu, H.-K., and Yen, B. L. (2021) Resident vs. nonresident multipotent mesenchymal stromal cell interactions with B lymphocytes result in disparate outcomes. *Stem Cells Transi Med.* 10(5):711-724
15. Liao, H.-Y., Wang, S.-C., Ko, Y.-A. **Lin, K.-I,** Ma, C., Cheng, R. T.-J., and Wong, C.-H. (2020) Chimeric hemagglutinin vaccine elicits broadly protective CD4 and CD8 T cell responses against multiple influenza strains and subtypes. *Proc Natl Acad Sci USA.* 117(30):17757-17763.
16. Chang, Y.-H., Weng, C.-L, and **Lin, K.-I*** (2020) *O*-GlcNAcylation and its role in the immune system. *J Biomed Sci.* 27(1):57. ***corresponding author**
17. Chen, H.-Y., Wu, Y.-F., Chou, F.-C., Wu, Y.-H., Yeh, L.-T., **Lin, K.-I**, Liu, F.-T., Sytwu, H.-K.

(2020) Intracellular galectin-9 enhances proximal TCR signaling and potentiates autoimmune disease. *Journal of Immunology. 204(5):1158-1172.*

18. Liu, C.-H., Chou, C.-T., Chen, C.-H., Chen, C.-H., Yang, S.-Y., Ko, Y.-A., Wu, Y.-T., Wang, C.-C., Liu, F.-C., Yue, C.-T., Hung, S.-C., Tzeng, I-S., Tsai, W.-C. *, and **Lin, K.-I*** (2020) Aberrant distribution and function of plasmacytoid dendritic cells in patients with ankylosing spondylitis are associated with unfolded protein response. *Kaohsiung Journal of Medical Sciences.* DOI: 10.1002/kjm2.12184. ***corresponding author**

19. Liu, C.-H., Raj, S, Chen, C.-H., Hung, K.-H., Chou, C.-T., Chen, I.-Ho., Chien, J.-T., Lin, I-Y., Yang, S.-Y., Angata, T., Tsai, W.-C., Wei. J. C.-C., Tzeng, I-S., Hung, S.-C.*, and **Lin, K.-I*** (2019) HLA-B27-mediated activation of TNAP phosphatase promotes pathogenic syndesmophyte formation in ankylosing spondylitis. *Journal of Clinical Investigation*. 129 (12): 5357-5373. *(Highlighted by Nature Reviews Rheumatology)* ***corresponding author**
Research highlight: Generate novel animal models and a mesenchymal stem cell (MSC)-based platform to demonstrate the pathogenic pathways leading to the upregulation of TNAP and enhanced mineralization in syndesmophyte of ankylosing spondylitis patients. Identify TNAP inhibitors that substantially reduced syndesmophyte formation.

20. Tsai, D.-Y., Hung, K.-H., Chang, C.-W., and **Lin, K.-I*** (2019). Regulatory Mechanisms of B cell responses and the implication in B cell-related diseases. *J Biomed Sci.* 26(1): 64. ***corresponding author**

21. Wang, Y.-H., Tsai, D.-Y., Ko, Y.-A., Yang, T.-T., Lin, I-Y., Hung, K.-H., and **Lin, K.-I*** (2019) Blimp-1 contributes to the development and function of regulatory B cells. *Frontiers in Immunology* 10:1909. doi: 10.3389/fimmu.2019.01909. ***corresponding author**

22. Tseng, Y.-C., Wu, C.-Y., Liu, M.-L., Chen, T.-H., Chiang, W.-L., Yu, Y.-H., Jan, J.-T., **Lin, K.-I,** Wong, C.-H., and Ma, C. (2019) Egg-based influenza split virus vaccine with monoglycosylation induces cross-strain protection against influenza virus infections. *Proc Natl Acad Sci USA.* 116 (10): 4200-4205.

23. Ko, Y.-A., Chan, Y.-H., Liu, C.-H., Liang, J.-J., Chuang, T.-H., Hsueh, Y.-P., Lin, Y.-L., and **Lin, K.-I*** (2018) Blimp-1-mediated pathway promotes type I IFN production in plasmacytoid dendritic cells by targeting to interleukin-1 receptor-associated kinase M. *Frontiers in Immunology.* https://doi.org/10.3389/fimmu.2018.01828. ***corresponding author**

24. Tsai, M.-S., Chiang, M.-T., Tsai, D.-L., Yang, C.-W., Hou, H.-S., Li, Y.-R., Chang, P.-C., Lin, H. H., Chen, H.-Y., Hwang, I.-S., Wei, P.-K., Hsu, C.-P., **Lin, K.-I**, Liu, F.-T., Chau, L.-Y. (2018) Galectin-1 restricts vascular smooth muscle cell motility via modulating adhesion force and focal adhesion dynamics. *Scientific Reports*. 8(1): 11497.

25. Hung, K.-H., Woo, Y. H., Lin, I-Y., Liu, C.-H., Wang, L.-C., Chen, H.-Y., Chiang, B.-L., and **Lin, K.-I*** (2018) The KDM4A/KDM4C/NF-κB and WDR5 epigenetic cascade regulates the activation of B cells. *Nucleic Acids Research*. 46(11): 5547-5560. ***corresponding author**
Research highlight: Reveal a novel cascade of epigenetic regulation in B cell activation and suggest the dysregulation of KDM4A/KDM4C pathway in the B cells of autoimmune SLE patients.

26. Wu, J.-L., Chiang, M.-F., Hsu, P.-H., Tsai, D.-Y., Hung, K.-H., Wang, Y.-H., Angata, T.* and **Lin, K.-I*** (2017) *O*-GlcNAcylation is required for B cell homeostasis and antibody responses. *Nature Communications*. 8(1): 1854. ***corresponding author**
Research highlight: Demonstrate the role of protein O-GlcNAcylation in B cell lineage at different developmental stages in vivo.

27. Lai, C.-Y., Su, Y.-W., **Lin, K.-I,** Hsu, L.-C. and Chuang, T.-H. (2017) Natural modulators of endosomal Toll-like receptor-mediated psoriatic skin inflammation. *Journal of Immunology Research.*10.1155/2017/7807313.

28. Chen, T.-T., Tsai, M.-H., Kung, J.T., **Lin, K.-I**, Decker, T. and Lee, C.-K. (2016) STAT1 regulates marginal zone B cell differentiation in response to inflammation and infection with blood-borne bacteria. *Journal of Experimental Medicine*. 213: 3025-3039.

29. Wu, J.-L., Wu, H.-Y., Tsai, D.-Y., Chiang, M.-F., Chen, Y.-J., Gao, S., Lin, C.-C., Lin, C.-H., Khoo, K.-H., Chen, Y.-J.* and **Lin, K.-I*** (2016) Temporal regulation of Lsp1 *O*-GlcNAcylation and phosphorylation during apoptosis of activated B cells. ***Nature Communications*.** 7:12526. doi: 10.1038/ncomms12526. ***corresponding author**

Research highlight: Reveal the intricate interplay of two types of post-translational modifications, phosphorylation and O-GlcNAcylation, in regulating B cell activation, and identify a key molecule, Lsp1, whose O-GlcNAcylation determines the survival after B cell activation.

30. Chien, C.-Y., Lee, H.-S. Lee, Cho, C.H.H., **Lin, K.-I**, Tosh, D., Wu, R.-R., Mao, W.-Y., Shen, C.-N. (2016) Maternal Vitamin A deficiency during pregnancy affects vascularized islet development. *Journal of Nutritional Biochemistry*. 36:51-59.

31. Yu, Y.-H., and **Lin, K.-I*** (2016) Factors that regulate the generation of antibody-secreting plasma cells. *Advances in Immunology.* 131:61-99. ***corresponding author**

32. Hung, K.-H., Su, S.-T., Chen, C.-Y., Hsu, P.-H., Huang, S.-Y., Wu, W.-J., Chen, M.M., Chen, H.-Y., Wu, P.-C., Lin, F.-R., Tsai, M.-D., and **Lin, K.-I*** (2016) Aiolos collaborates with Blimp-1 to regulate the survival of multiple myeloma cells. *Cell Death and Differentiation*. 23(7), 1175–1184. ***corresponding author**

33. Tsai, D.-Y., Hung, K.-H., Lin, I-Y., Su, S.-T., Wu, S.-Y., Chung, C.-H., Wang, T.-C., Li, W.-H., Shih, A. C.-C.*, and **Lin, K.-I*** (2015) Uncovering miRNA regulatory hubs that modulate plasma cell differentiation. *Scientific Reports.* 5: 17957. ***corresponding author**

34. Tsai, C.-M. and **Lin, K.-I*** (2015) Examination of the role of galectins in plasma cell differentiation. *Methods Mol Biol.* 1207:153-167. ***corresponding author**

35. Kretzschmar, K., Cottle, D.L., Donati, G, Chiang, M.-F., Quist, S.R., Gollnick, H.P., Natsuga, K., Aoyagi, S., **Lin, K.-I**, and Watt, F. M. (2014) BLIMP1 does not define a sebaceous gland progenitor population but is required for epidermal homeostasis. *Stem Cell Reports.* 3: 620-633. *(Cover story)*

36. Chiu, Y.-K., Lin, I-Y., Su, S.-T., Wang, K.-H., Yang, S.-Y., Tsai, D.-Y., Hsieh, Y.-T., and **Lin, K.-I***. (2014) Transcription factor ABF-1 suppresses plasma cell differentiation but facilitates memory B cell formation. *Journal of Immunology*. 193(5): 2207-2217. ***corresponding author**

37. Tsai, C.-M., Wu, H.-Y., Su, T.-H., Kuo, C.-W., Huang, H.-W., Chung, C.-H., Chen, C.-S., Khoo, K.-H., Chen, Y.-J.* and **Lin, K.-I*** (2014) Phosphoproteomic analyses reveal that galectin-1 augments the dynamics of B-cell receptor signaling. *Journal of Proteomics* 103: 241-253. ***corresponding author**

38. Huang, K.-Y., Wu, H.-Y., Chen, Y.-J., Lu, C.-T., Su, M.-G., Hsieh, Y.-C., Tsai, C.-M., **Lin, K.-I.**, Huang, H.-D., Lee, T.-Y. and Chen, Y.-J. (2014) RegPhos 2.0: an update resource to explore protein kinase-substrate phosphorylation networks in mammals. *Database: the journal of biological databases and curation (Oxford)* 25; 2014(0): bau034

39. Lin, I-Y., Chiu, F.-L., Yeang, C.-H., Chen, H.-F., Chuang, C.-Y., Yang, S.-Y., Hou, P.-S., Sintupisut, N., Ho, H.-N., Kuo, H.-C.*, and **Lin, K.-I*** (2014) Suppression of the *SOX2* neural effector gene by PRDM1 promotes human germ cell fate in embryonic stem cells. *Stem Cell Reports*. 2(2): 189-204. ***corresponding author**

40. Lin, M.-H., Yeh, L.-T., Chen, S.-J., Chiou, H.-Y., Chu, C.-C., Yen, L. B., **Lin, K.-I**, Chang, D.-M., and Sytwu, H.-K. (2014) T cell-specific BLIMP-1 deficiency exacerbates experimental autoimmune encephalomyelitis in nonobese diabetic mice by increasing Th1 and Th17 cells. *Clinical Immunology.* 151: 101-113.

41. Chen, J.-R., Yu, Y.-H., Tseng, Y.-C., Chiang, W.-L., Chiang, M.-F., Ko, Y.-A., Chiu, Y.-K., Ma, S.-H., Wu, C.-Y., Jan, J.-T., **Lin, K.-I***, Ma, C.*, and Wong, C.-H*. (2014) Vaccination of monoglycosylated hemagglutinin induces cross-strain protection against Influenza virus infections. *Proc Natl Acad Sci USA*. 111(7): 2476-2481. ***corresponding author** *(Highlighted by PNAS)*

Research highlight: Reveal the immunological responses of the influenza monoglycosylated hemagglutinin (HAmg) protein-based vaccine, and isolate cross-recognition monoclonal antibodies from the vaccinated mice.

42. Liao, S.-F, Liang, C.-H., Ho, M.-Y., Hsu, T.-L., Tsai, T.-I, Hsieh, Y. S.-Y., Tsai, C.-M., Li, S.-T., Cheng, Y.-Y., Tsao, S.-M., Lin, T.-Y., Lin, Z.-Y. , Yang, W.-B., Ren, C.-T., **Lin, K.-I**, Khoo, K.-H., Lin, C.-H., Hsu, H.-Y., Wu, C.-Y., and Wong, C.-H. (2013) Immunization of fucose-containing polysaccharides from Reishi mushroom induces antibodies to tumor-associated Globo H-series epitopes. *Proc Natl Acad Sci USA.* 110(34): 13809-13814. *(Highlighted by PNAS)*

43. Huang, H.-W., Chen, C.-H., Lin, C.-H., Wong, C.-H.*, and **Lin, K.-I***. (2013) B cell maturation antigen is modified by a single *N*-glycan chain that modulates ligand binding and surface retention. *Proc Natl Acad Sci USA* 110(27): 10928-10933. ***corresponding author**

Research highlight: Demonstrate the glycoproteome of malignant plasma cells (multiple myeloma), and identify the significance of glycosylation of BCMA in regulating the survival of multiple myeloma cells in response to drug treatment.

44. Tu, Z., Hsieh, H.-W., Tsai, C.-M., Hsu, C.-W., Wang, S.-G., Wu, K.-J., **Lin, K.-I***, and Lin, C.-H*. (2013) Synthesis and characterization of sulfated Gal-β-1,3/4-GlcNAc disaccharides via consecutive Protection/glycosylation Steps. *Chemistry-An Asian Journal* 8 (7): 1536-1550. ***corresponding author**

45. Wang, S.-H., Tsai, C.-M., **Lin, K.-I*** and Khoo, K.-H.* (2013) Advanced mass spectrometry and chemical analyses reveal the presence of terminal disialyl motif on mouse B cells. *Glycobiology*. 23(6): 677-689. ***corresponding author**

46. Chiang, M.-F., Yang, S.-Y., Lin, I-Y., Hong, J.-B., Lin, S.-J., Ying, H.-Y., Chen, C.-M., Wu, S.-Y., Liu, F.-T., and **Lin, K.-I*** (2013) Inducible deletion of Blimp-1 gene in adult epidermis causes granulocyte-dominated chronic skin inflammation in mice. *Proc Natl Acad Sci USA* 110 (16): 6476-6481. ***corresponding author** *(Highlighted by Nature Reviews Immunology and Nature Immunology)*

Research highlight: Demonstrate the role of transcription factor, Blimp-1, in restraining skin inflammation and connect the down-regulation of Blimp-1 with human atopic dermatitis.

47. Lin, M.-H., Chou, F.-F., Yeh, L.-T., Fu, S.-H., Chiou, H.-Y., **Lin, K.-I**, Chang, D.-M. and Sytwu H.-K. (2013) B lymphocyte-induced maturation protein 1 (BLIMP-1) attenuates autoimmune diabetes in NOD mice by suppressing Th1 and Th17 cells. *Diabetologia* 56: 136-146.

48. Lin, F.-R., Huang, S.-Y., Hung, K.-H., Su, S.-T., Chung, C.-H., Matsuzawa, A., Hsiao, M., Ichijo, H. and **Lin, K.-I*** (2012) ASK1 promotes apoptosis of normal and malignant plasma cells. *Blood* 120 (5): 1039-1047. ***corresponding author**

Research highlight: Demonstrate Blimp-1 is important for ensuring plasma cell survival by suppressing the expression of pro-apoptotic factor, ASK1. Suppression of ASK1 is crucial for cell survival of malignant plasma cells, multiple myeloma.

49. Ying, H.-Y., Su, S.-T., Hsu, P.-H., Chang, **C.-C., Lin, I-Y.,** Tseng, Y.-H., Tsai, M.-D., Shih, H.-M. and **Lin, K.-I*** (2012) SUMOylation of Blimp-1 is critical for plasma cell differentiation. *EMBO Reports.* 13 (7): 631-637. ***corresponding author** *(Cover story and highlighted by A-IMBN)*

Research highlight: Demonstrate the transcription factor Blimp-1 is modified by SUMO1 for the first time, and identify the significance of Blimp-1 SUMOylation in directing plasma cell differentiation.

50. Chuang, C.-Y., **Lin, K.-I**, Hsiao, M., Stone, L., Chen, H.-F., Huang, Y.-H., Lin, S.-P., Ho, H.-N.,and Kuo, H.-C. (2012) Meiotic competent human germ cell-like cells derived from human embryonic stem cells induced by BMP4/WNT3A signaling and OCT4/EpCAM selection. *Journal of Biological Chemistry.* 287: 14389-14401.

51. Wu, Y.-H., Yang, C.-Y., Chien, W.-L., **Lin, K.-I** and Lai, M.-Z. (2012) Removal of Syndecan-1 promotes TRAIL-induced apoptosis in myeloma cells. *J. Immunol*. 188: 2914-2921.

52. Hsu, Y, Lu, X.-A.; Zulueta, M., Tsai, C.-M., **Lin, K.-I,** Hung, S.-C. and Wong, C.-H. (2012) Acyl and Silyl group effects in reactivity-based one-pot glycosylation: synthesis of embryonic stem cell surface carbohydrates Lc4 and IV2Fuc-Lc4. *Journal of the American Chemical Society*. 134:

4549-4552.

53. Tsai, C.-M., Guan, C.-H., Hsieh, H.-W, Hsu, T.-L., Tu, Z., Wu, K.-J., Lin, C.-H*. and **Lin, K.-I*** (2011) Galectin-1 and galectin-8 have redundant roles in promoting plasma cell formation. *J. Immunol*. 187(4): 1643-1652. ***corresponding author**

54. Chan, Y.-H., Chiang, M.-F., Tsai, **Y.-C.**, Su, S.-T., Chen, M.-H., Hou, M.-S. and **Lin, K.-I*** (2009) Absence of the transcriptional repressor Blimp-1 in hematopoietic lineages reveals its role in the conventional dendritic cell homeostatic development and function. *J. Immunol*. 183: 7039-7046. ***corresponding author** *(Highlighted by Journal of Immunology)*

55. Su, S.-T., Ying, H.-Y., Chiu, Y.-K., Lin, F.-R., Chen, M.-Y. and **Lin, K.-I*** (2009) Involvement of LSD1 in Blimp-1-mediated gene repression during plasma cell differentiation. *Mol Cell Biol.* 29: 1421-1431. ***corresponding author**

56. Tsai, C.-M., Chiu, Y.-K., Hsu, T.-L., Lin, I-Y., Hsieh, S.-L. and **Lin, K.-I*** (2008) Galectin-1 promotes immunoglobulin production during plasma cell differentiation. *J. Immunol*. 181: 4570-4579. ***corresponding author** *(Highlighted by Consortium for Functional Glycomics)*

57. Lin, F.-R., Kuo, H.-K., Ying, H.-Y., Yang, F.-H. and **Lin, K.-I*** (2007) Induction of apoptosis in plasma cells by Blimp-1 knockdown. *Cancer Research*. 67: 11914-11923. ***corresponding author**

Research highlight: Demonstrate the role of transcription factor Blimp-1 in suppressing apoptosis in plasma cells for the first time, suggesting the potential role of modulating Blimp-1 expressing in treating plasma cell-involved diseases.

58. **Lin, K.-I*,** Kao, Y.-Y., Kuo, H.-K., Yang, W.-B., Chou, A., Lin, H.-H., Yu, A.L. and Wong, C.-H. (2006) Reishi polysaccharides induce immunoglobulin production through the TLR4/TLR2-mediated induction of transcription factor blimp-1. *J. Biol. Chem.* 281: 24111-24123. *corresponding author

(Ph.D. and Postdoctoral Research Work)

59. Shapiro-Shelef, M., **Lin, K.-I**, Savitsky, D., Liao, J. and Calame, K. (2005) Blimp-1 is required for maintenance of long-lived plasma cells in the bone marrow. *J. Exp. Med.* 202:1471-1476

60. Johnson, K., Pflugh, D.L., Yu, D., Hesslein, D.G.T., **Lin, K.-I**, Bothwell, A.L., Thomas-Tikhonenko, A., Schatz, D.G. and Calame K. (2004) B-cell specific loss of histone 3 Lysine 9 methylation in the V_H locus depends on Pax5. *Nature Immunology*. 5: 853-861.

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