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Identify the molecular mechanisms that regulate defective NK cell development in aged mice

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Natural killer (NK) cells are bone marrow-derived lymphocytes crucial for host defense against several infections and cancer. We have previously shown that compared to young, aged C57BL/6 mice have decreased numbers of mature NK cells, resulting in susceptibility to mousepox, a lethal disease caused by *Ectromelia virus*. We also found that the natural killer cell dysfunction of aged mice is due to the bone marrow stroma, not NK cell intrinsic. To investigate the molecular mechanisms that regulate the defective NK cell development in aged mice, we used high throughput sequencing to compare the gene expression differences between young and aged NK cells. We found that over 300 genes were differentially expressed in the aged NK cells compared to the young. Further identification of the main or check point regulators will shed new lights on the regulation of NK cell development in the aging environment.

Biography

Min Fang has completed her PhD from the Institute of Genetics and Developmental Biology, CAS in 2003 and Postdoctoral training in Fox Chase Cancer Center in USA mainly on studying the pathogenesis of viral infection, as well as the mechanisms by which vaccines afford protection. She has joined the Institute of Microbiology, CAS in June, 2012 as a Professor supported by Thousand Young Talents Program of the China's Government. Her work was published in esteemed journals such as: *Immunity, Journal of Experimental Medicine, PNAS, PLOS Pathogen*, etc and multiple works were selected and referred by the "Faculty of 1000".

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