



C HINESE- A MERICAN L UNG A SSOCIATION



2020 CALA Happy Friday Seminar

August 28th , 2020

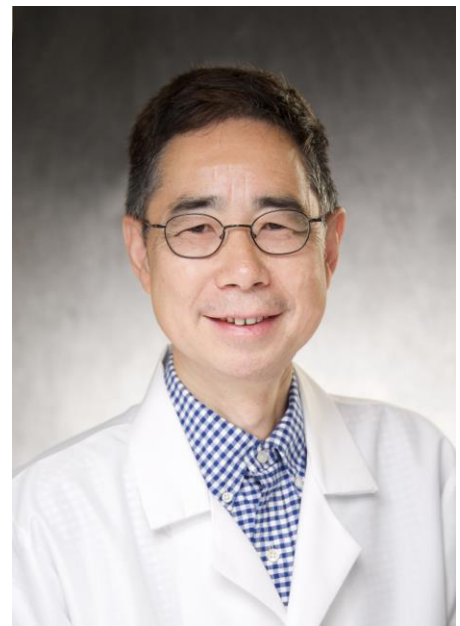
Join Zoom Meeting:

<https://arizona.zoom.us/j/97032505774> (Password: 654321)

Time: EST 10:30 am; PST: 7:30 am; Beijing time: 10:30 pm

Targeting CBLB as an Effective Approach to Boost T_{FH} Responses Against Influenza A Virus Infection

T follicular helper (T_{FH}) cells are CD4⁺ T cells specialized in providing help for germinal center (GC) formation, and the development of most high-affinity antibodies which are crucial for protective immune responses against pathogens. However, the negative regulation of T_{FH} cell development is largely unknown. Here, we report that loss or inactivation of Cbl-b in mice facilitates T_{FH} cell development, and protects mice from a lethal infection with influenza A virus (IAV), which correlates with heightened T_{FH} responses and an expansion of GC B cells and plasma cells. T cell-intrinsic Cbl-b is critical for this process by binding to Bcl-6 and targeting Bcl-6 for polyubiquitination and degradation. Silencing the *Cblb* gene in vivo protects mice from lethal IAV infection, and enhances T_{FH}-mediated Ab responses to influenza vaccination. Therefore, targeting Cbl-b may function as an effective adjuvant to boost immune responses to influenza vaccination, or represent potential therapeutic approaches for lethal RNA viral infections.



Jian Zhang, M.D.
Professor of Pathology
Endowed Chair in
Immunology Research
University of Iowa Health
Care Distinguished Scholar