ID der Kurzfassung : **105**

Defining the PKR Interactome in Immune-activated A549 cells to Identify Modulators of PKR function

Inhalt

Infections with seasonal influenza A viruses (IAVs) typically trigger a balanced antiviral response, whereas highly pathogenic avian influenza viruses (HPAIVs) often lead to systemic inflammation and severe disease. The molecular determinants driving these aberrant reactions remain poorly defined. Our previous research identified a specific signaling cascade comprising protein kinase R (PKR), p38, and MSK1 that mediates the phosphorylation of the immune regulatory transcriptional co-repressor TRIM28. This pathway is uniquely activated by HPAIVs and is linked to the excessive expression of proinflammatory cytokines.
While HPAIV-derived viral RNAs are suspected drivers of PKR activation, the role of protein-protein interactions remains largely unexplored. To investigate this, we characterized the PKR interactome in immune-activated A549 cells using affinity-based protein enrichment and LC-MS. This approach identified several interferon-stimulated genes (ISGs) with proven antiviral activities as highly confident PKR binding partners. Western blot analysis verified our findings and further suggest that PKR could serve additional immune modulatory roles beyond the canonical function of inhibition of protein translation.

Keywords

Registration ID

INF26-8

Professional status of the speaker

PhD student

Junior scientist status

Yes, I am a junior scientist.

Track Klassifizierung: Innate immunity

Typ des Beitrags: Poster presentation