**Salmonella LVR01 induces dual innate immune memory responses in tumor models**
Moreno, M, Chilibroste, S , dos Santos, CJ , Mónaco, A , Joosten, LAB , Chabalgoity, JA

Evento: Internacional

Presentación de póster
Descripción: 4th Latin American and Caribbean Immunology Congress, ALACI 2024

Ciudad: Buenos Aires, Argentina
Año del evento: 2024

Innate immune memory operates in two modes: trained immunity, which amplifies cellular responsiveness, and tolerance, which reduces the immune response to later challenges. Agents such as beta-glucan, Leishmania, BCG, and LPS are known to trigger one of these effects. BCG, an established immunotherapy for bladder cancer, uses trained immunity to enhance anti-tumor adaptive responses. Salmonella has also shown potential in cancer treatment, generating strong but short-lived anti-tumor immune responses. This study investigates whether Salmonella LVR01 can induce trained immunity and how this influences anti-tumor activity. *In vivo* stimulation of bone marrow cells with *Salmonella* LVR01 was performed, followed by a secondary stimulus to evaluate trained immunity through cytokine production. The impact of *Salmonella* LVR01 on tumor growth and survival was examined in mouse models, with tumors implanted after bacterial administration. *In vitro* assays were conducted to measure cytokine production in mouse monocytes following stimulation with *Salmonella.* Salmonella LVR01 led to an increased cytokine response in bone marrow cells, consistent with trained immunity. This enhanced response was associated with slower tumor growth and improved survival in treated mice. However, *in vitro* studies showed that stimulation of monocytes with Salmonella resulted in reduced cytokine production, indicating immune tolerance. These dual effects may explain the temporary benefits of *Salmonella*-based cancer therapies, underscoring the need for further research to refine these treatments.