Peritonitis Models



Increase your study confidence using validated in vivo models

Progress your anti-inflammatory agents with our preclinical drug development platform of thoroughly validated peritonitis models.

- Choose from a range of models recapitulating various types of acute inflammation:
 - Monosodium urate (MSU) induced peritonitis model
 - Zymosan-induced peritonitis model
 - fMLP, LPS/sepsis, and thioglycollate-induced models coming soon.
- Effectively determine preclinical drug efficacy and model response to treatment.
- Perform mechanistic assessment of anti-inflammatory compounds via rapid and simple assessment of leukocyte recruitment and acute inflammatory response.
- Partner with our experienced team for expert consultation and custom model builds

Monosodium Urate-Induced "Gout" Peritonitis Model

- Perform simple and rapid evaluation of agent inflammasome-mediated acute inflammatory response.
- Effectively characterize inflammatory exudates including PMNs and IL-1β, with ample volumes collected from peritoneal cavities compared to smaller joint synovial fluid volumes.
- Peritonitis induced via 3mg MSU crystal injection i.p., with fluid lavaged from peritoneal cavities 4-6 hours later.

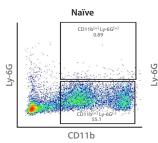
Zymosan-Induced Peritonitis Model

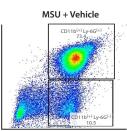
- Rapidly assess an agent's ability to attenuate acute TLR-activated inflammation associated with peritonitis.
- Accurately investigate your compounds' effect on various immune components including neutrophils, eosinophils, and macrophages.
- Peritonitis induced by i.p. injection of 0.5mg zymosan, a yeast cell wall component and TLR2 agonist, with fluid lavaged from peritoneal cavities 6-48 hours later dependent upon immune cell populations of interest.

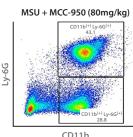
Evaluate Major Study Endpoints

- Flow cytometry analysis for leukocytes of interest such as PMNs and macrophages.
- Cytokine levels measured by ELISA or MSD.
- Inflammatory gene expression of recruited leukocytes measured by qPCR.

Inflammasome Inhibitor MCC-950 Reduces PMN Leukocyte Recruitment (CD11b+ Ly-6Ghigh)

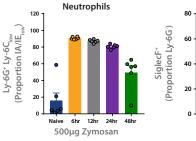


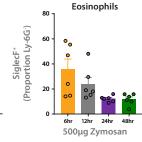


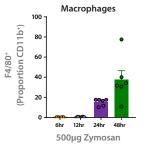


Representative flow cytometry density plots showing CD11b⁺ Ly-6G⁺ PMN populations in the lavage fluid of naïve mice or models with MSU-induced peritonitis. Treatment with the NLRP3 inflammasome inhibitor MCC-950 leads to a reduction in Ly-6G⁺ cells relative to total CD11b⁺ cells.

Immune Cell Populations in Lavage Fluid Post Zymosan Injection







Flow cytometry analysis of neutrophil, eosinophil, and macrophage populations over time in zymosan-induced peritonitis. Zymosan injection leads to an acute inflammatory response and early influx of neutrophils after 6 hours, transitioning to a macrophage response after 24-48 hours.





