



Preclinical Models of Gouty Arthritis (GA)

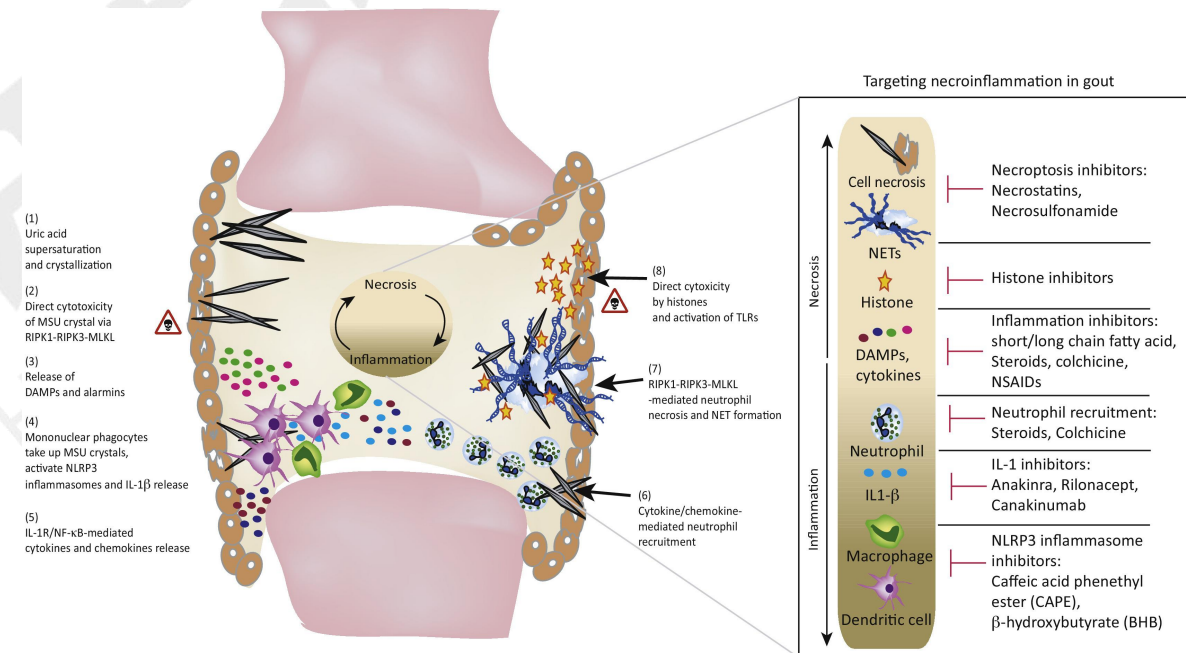
Gouty arthritis (GA)

Symptoms and Causes

Gouty arthritis is one of the most common rheumatic diseases. Gout is an inflammatory arthritis caused by the deposition of monosodium urate (MSU) crystals in and around joints, which occurs against a background of chronic hyperuricaemia. Recurrent attacks of acute arthritis, if not treated appropriately, eventually lead to chronic destructive arthropathy, tophi and renal disease. The prevalence of gout is rising and is likely attributed to several factors including increased incidence of comorbidities, lifestyle factors, and increased use of causative medications.

Models in place:

- **MSU Induced BALB/c GA Model**
- **MSU Induced C57BL/6 GA Model**

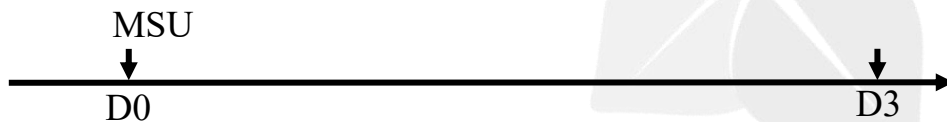


MSU Induced GA Model in mice

■ Mechanism

Monosodium urate (MSU) crystals, the etiological agent of gout, are formed in joints and periarticular tissues due to long-lasting hyperuricemia. MSU crystal-triggered NLRP3 inflammasome activation and interleukin 1 β (IL-1 β) release are known to have key roles in gouty arthritis, recent studies revealed that MSU crystal-induced necrosis also plays a critical role in this process.

■ MSU Induced GA Model in mice



Animal	BALB/c & C57BL/6
Evaluation	Clinical: Foot thickness, Body weight
	Cell: Neu in Blood & joint
	Cytokine: IL-1 β , IFN- γ
	Pathology: NA

MSU Induced BALB/c GA Model

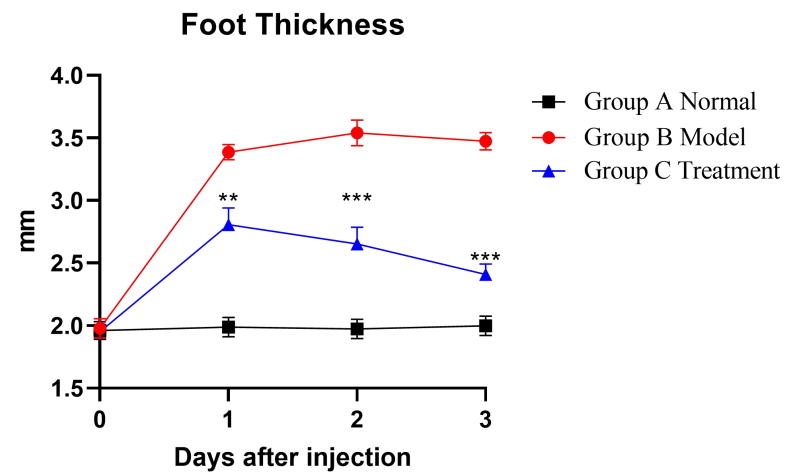


Fig 1 Foot thickness

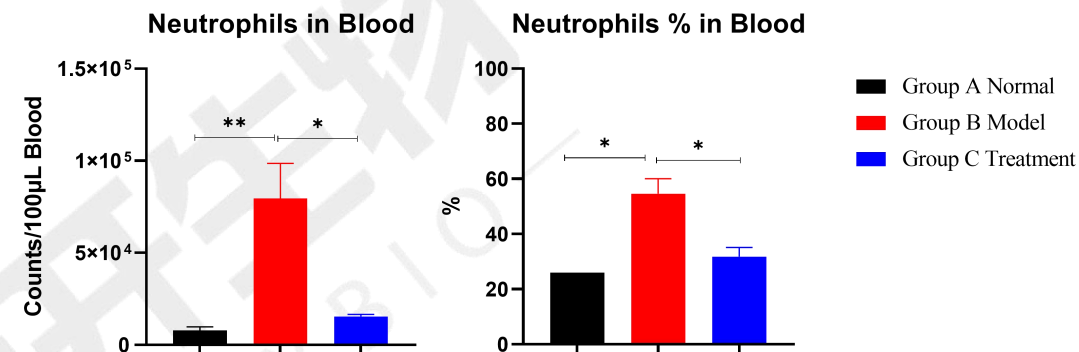


Fig 2 Neutrophils in Blood

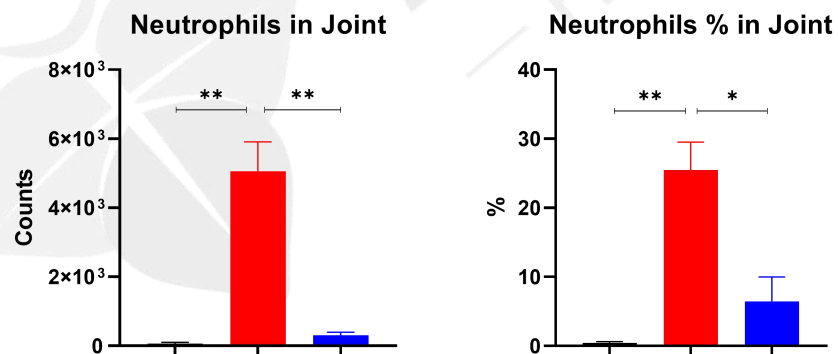


Fig 3 Neutrophils in joints

MSU Induced C57BL/6 GA Model

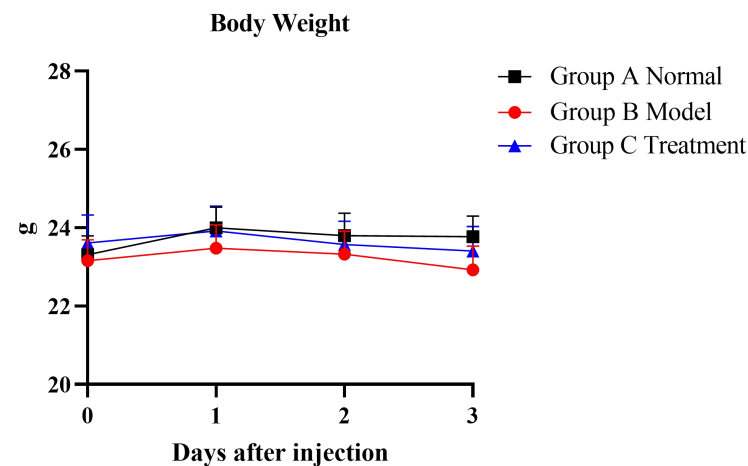


Fig 1 Body weight

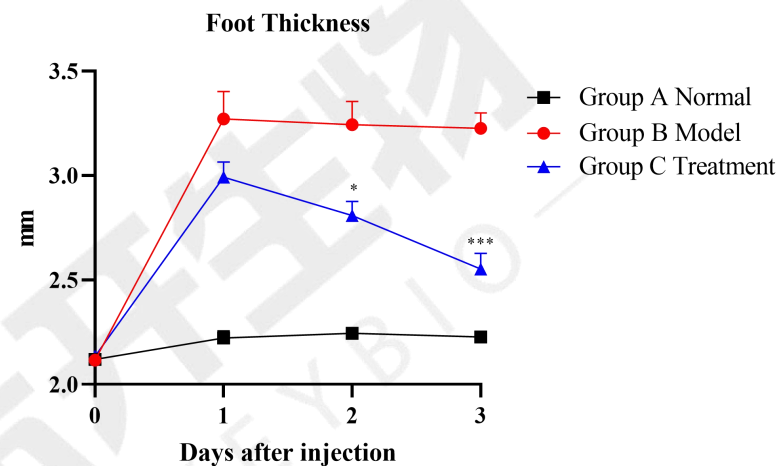


Fig 2 Foot thickness

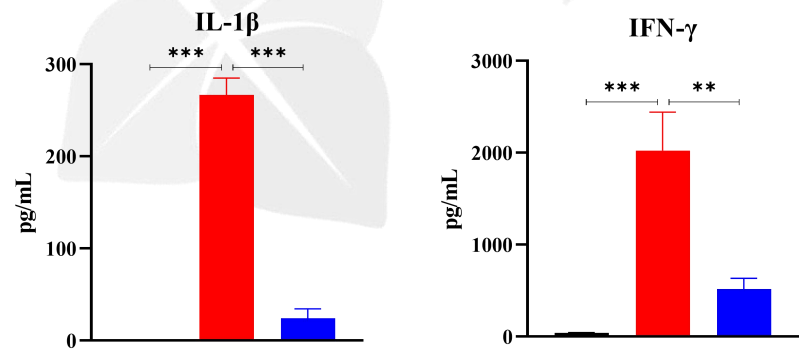


Fig 3 Cytokines in joints



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