Therapeutic Regulation of the Host Response to Biomaterials by Inhibition of Inflammasome Pathways

OCR Number: OCR 5199

Description:

- Implantation of biomaterials and devices into soft tissues leads to the development of the foreign body response (FBR), which can interfere with implant function and eventually lead to failure – currently there are no therapeutic options.
- FBR consists of overlapping acute and persistent inflammatory phases coupled with collagenous encapsulation of the foreign material.
- Yale researchers have identified that the acute inflammatory response to biomaterials can be limited by inhibition of inflammasome-related pathways.
- Aspirin significantly reduces the FBR in response to silicone implants, as shown in figures (*↑P > 0.05)

Advantages:

- Improve the function of biomaterials
- Reduce the need to replace biomaterials and devices
- Reduce side effects from inflammation related to biomaterials