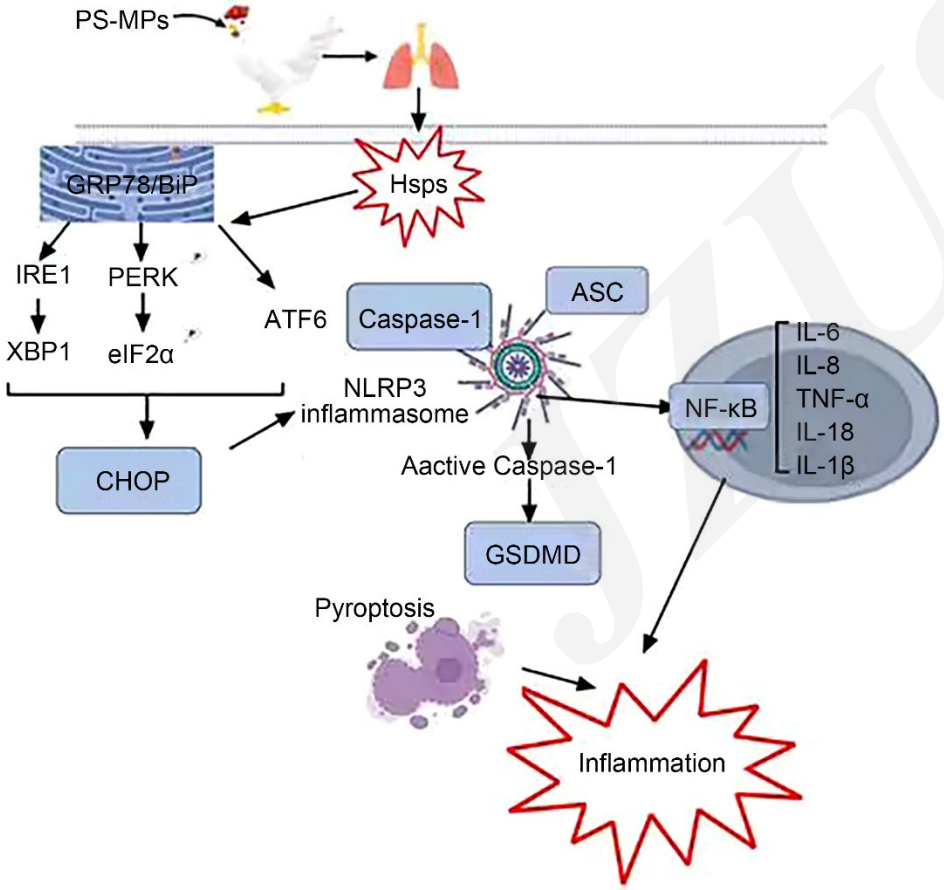
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Endoplasmic reticulum stress-induced NLRP3 inflammasome activation as a novel mechanism of polystyrene microplastics (PS-MPs)-induced pulmonary inflammation in chickens

Key words: Polystyrene microplastics; Endoplasmic reticulum stress; Lungs; NLRP3 inflammasome; Inflammation

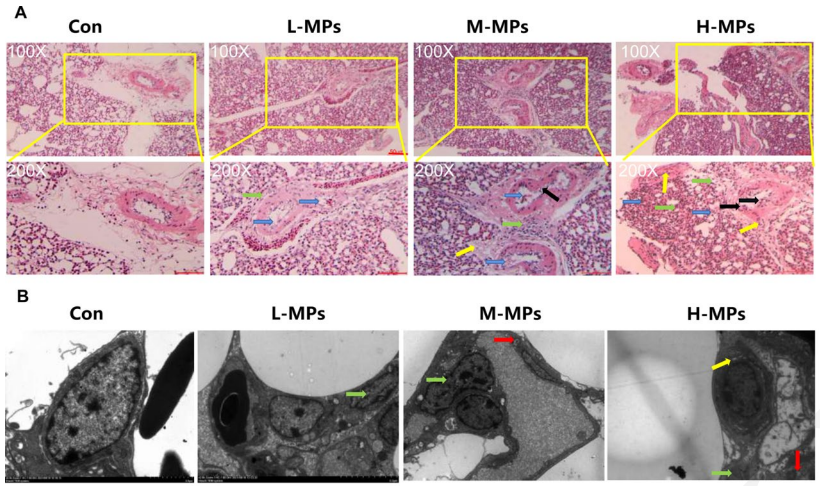
Research Summary

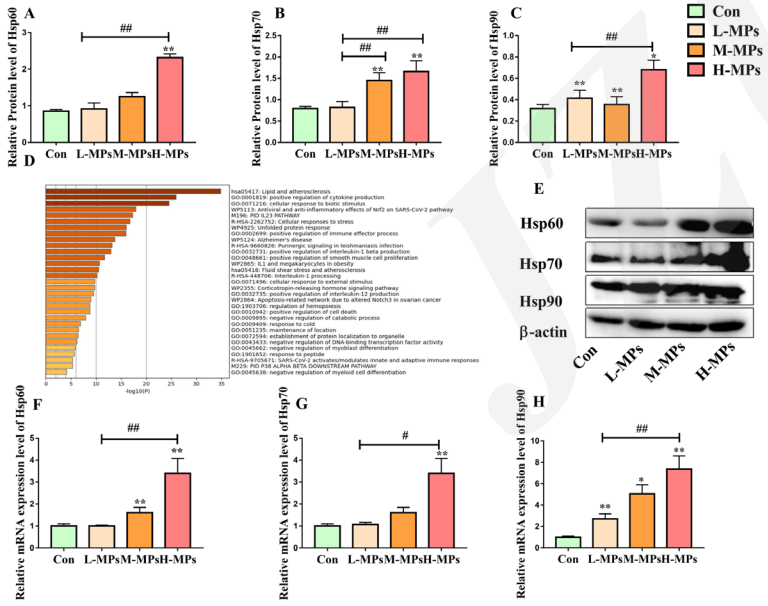
This paper mainly discusses the exposure of polystyrene microplastics(PS-MPs) to induce protein stress toxicity, trigger ER stress, induce the activation of NLRP3 inflammasome, and lead to lung inflammation in chickens. The following aspects are summarized and discussed:

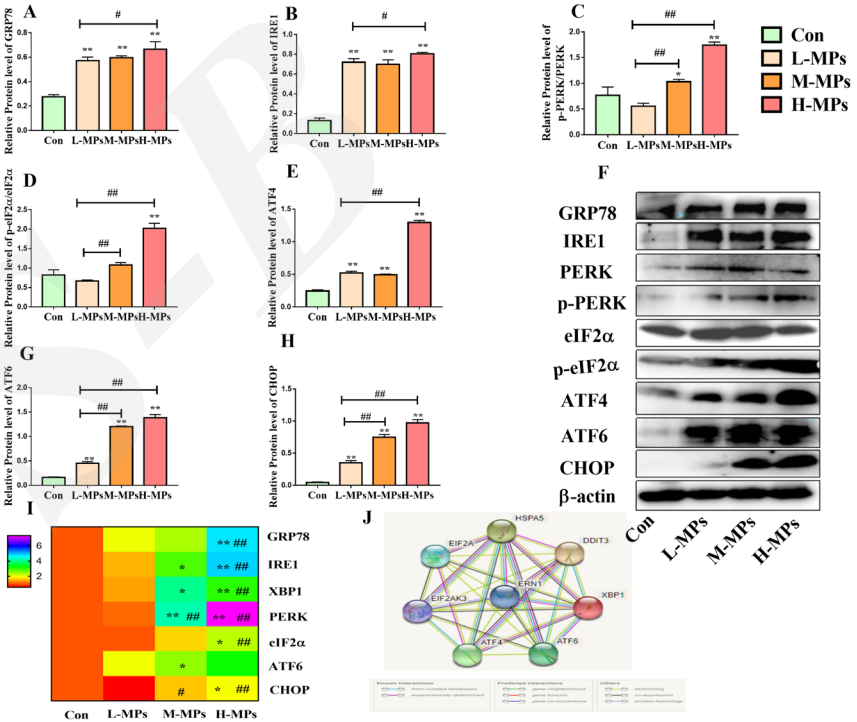


- **Protein stress toxicity**
- **Er stress**
- **activated NLRP3 inflammasome**
- **Inflammation**

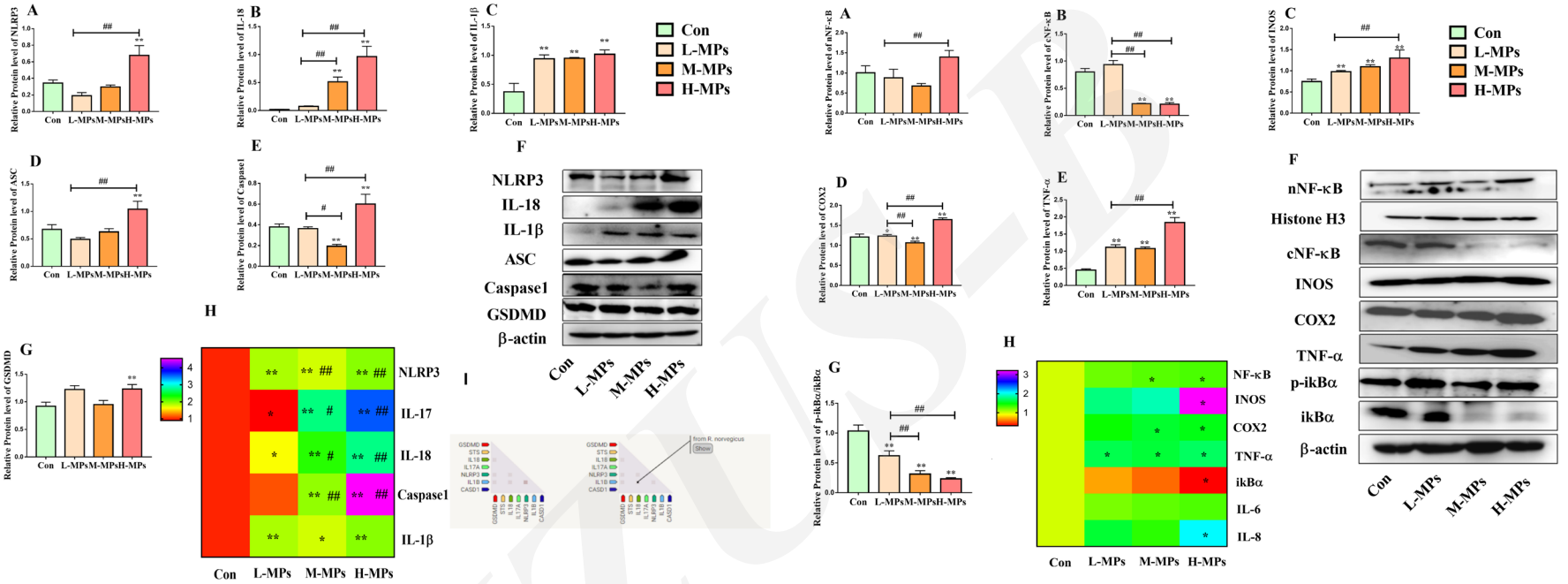
PS-MPs causes lung tissue damage, protein stress toxicity and endoplasmic reticulum stress







Endoplasmic reticulum stress induced NLRP3 inflammasome activation, leading to inflammatory response



Innovation points

A series of experiments have been conducted to investigate and verify that PS-MPs exposure causes lung injury.

- **PS-MPs exposure leads to lung stress and triggers endoplasmic reticulum stress.**
- **PS-MPs induce activation of NLRP3 inflammasome through ER stress.**
- **PS-MPs induce activation of NLRP3 inflammasome leading to pyroptosis accompanied by inflammatory magnification.**

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