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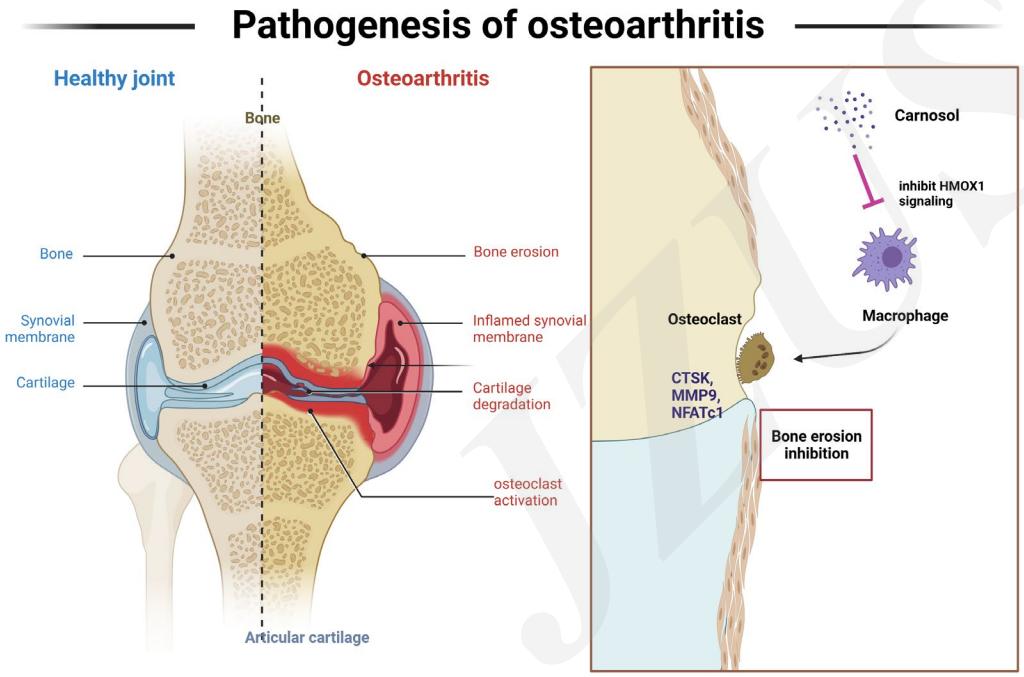
Heme oxygenase 1 linked to inactivation of subchondral osteoclasts in osteoarthritis

Key words: Osteoclasts; Oxidative stress; Osteoarthritis; HMOX1; Carnosol

Research Summary

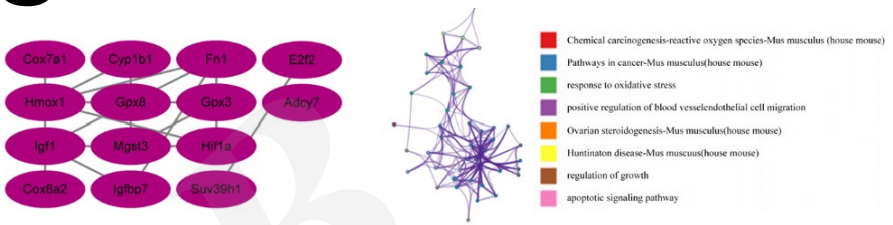
This paper mainly focused on the specific mechanism of osteoclastic differentiation in OA, and summarized the key roles they played in the following aspects:



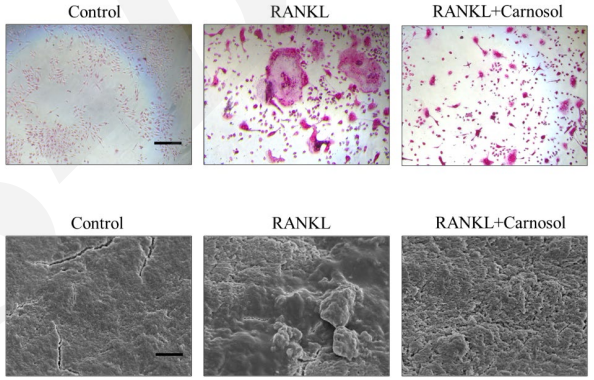
- The activation of osteoclasts due to subchondral bone redox dysplasia may serve as a significant pathway for the advancement of OA
- Targeting HMOX1 in subchondral osteoclasts may offer novel insights for the treatment of early OA

Innovation points

- **HMOX1 was involved in osteoclast differentiation in OA**



- **Carnosol inhibited osteoclastogenesis by targeting HMOX1 in mitochondria-dependent pathways**



- **Carnosol inhibited subchondral osteoclast differentiation and delayed the progression of OA in vivo**