

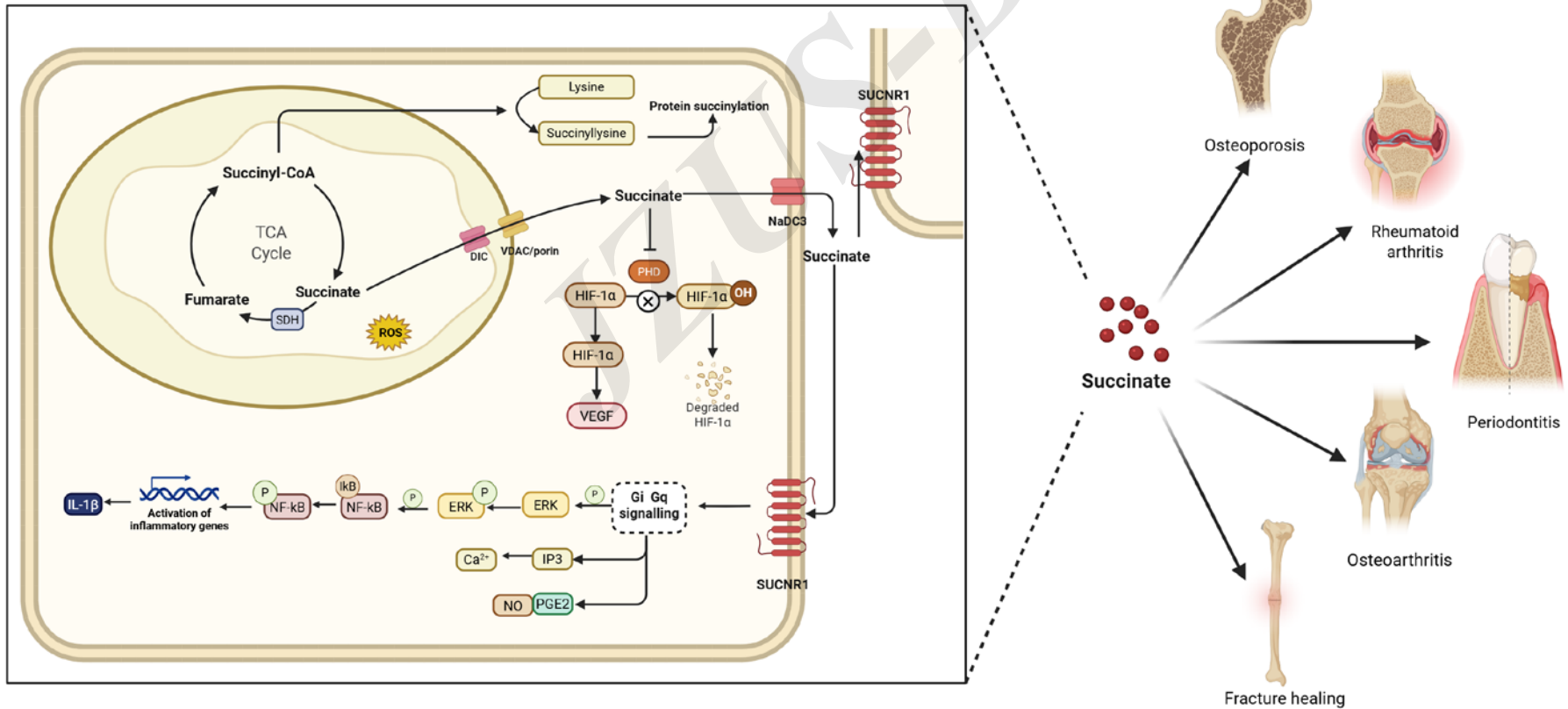
Cite this as: Zuping WU, Qiaoli DAI, Ying WANG, Na WU, Chenyu WANG, Jiejun SHI. Emerging roles of the metabolite succinate in bone-related diseases. *Journal of Zhejiang University-SCIENCE B*, 26(12):1137-1155. <https://doi.org/10.1631/jzus.B2400406>

Emerging roles of the metabolite succinate in bone-related diseases

Key words: Succinate; Osteoarthritis; Rheumatoid arthritis; Osteoporosis; Fracture; Periodontitis

Research Summary

This review focuses on the roles of succinate as a signaling molecule in bone-related diseases through interactions with SUCNR1 and HIF-1 α , summarizing the findings in the graphical abstract below:



Innovation points

- **Introduction** of four pathways of succinate accumulation under stress conditions, detailing their mechanisms of action.
- **Summary** of the latest research on succinate's impact on bone health, including its roles in osteoporosis, osteoarthritis, rheumatoid arthritis, fractures, and periodontitis.
- **Emphasis** on the potential of succinate as a therapeutic target for these bone-related diseases.

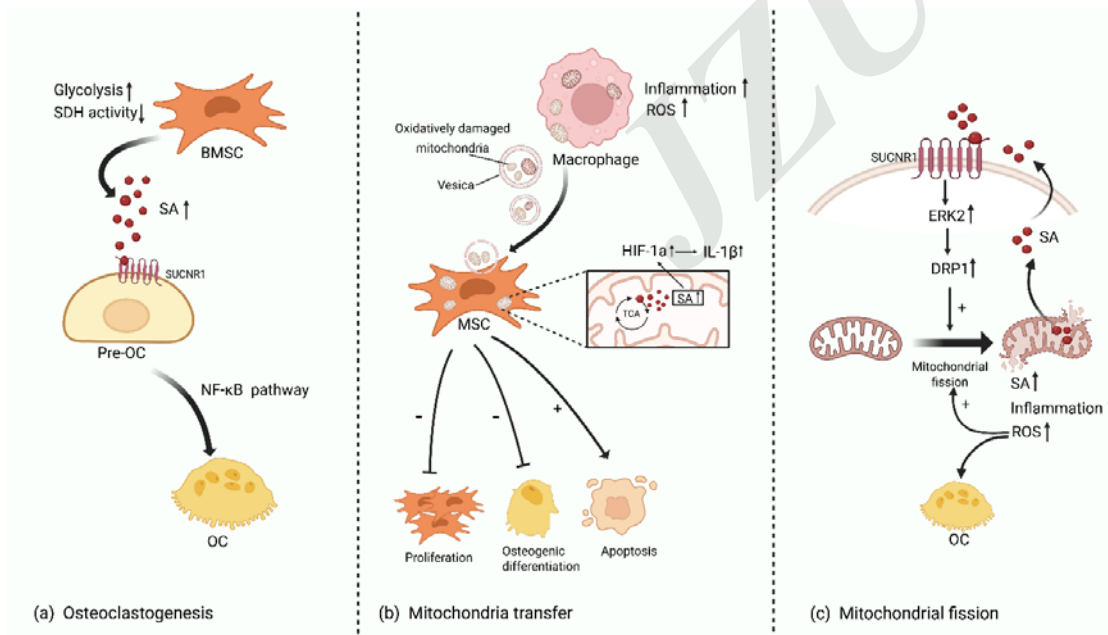


Figure 3 Role of succinate in osteoporosis.