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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 SUCNR-1 and HIF-1α, summarizing the findings in the graphical abstract below：

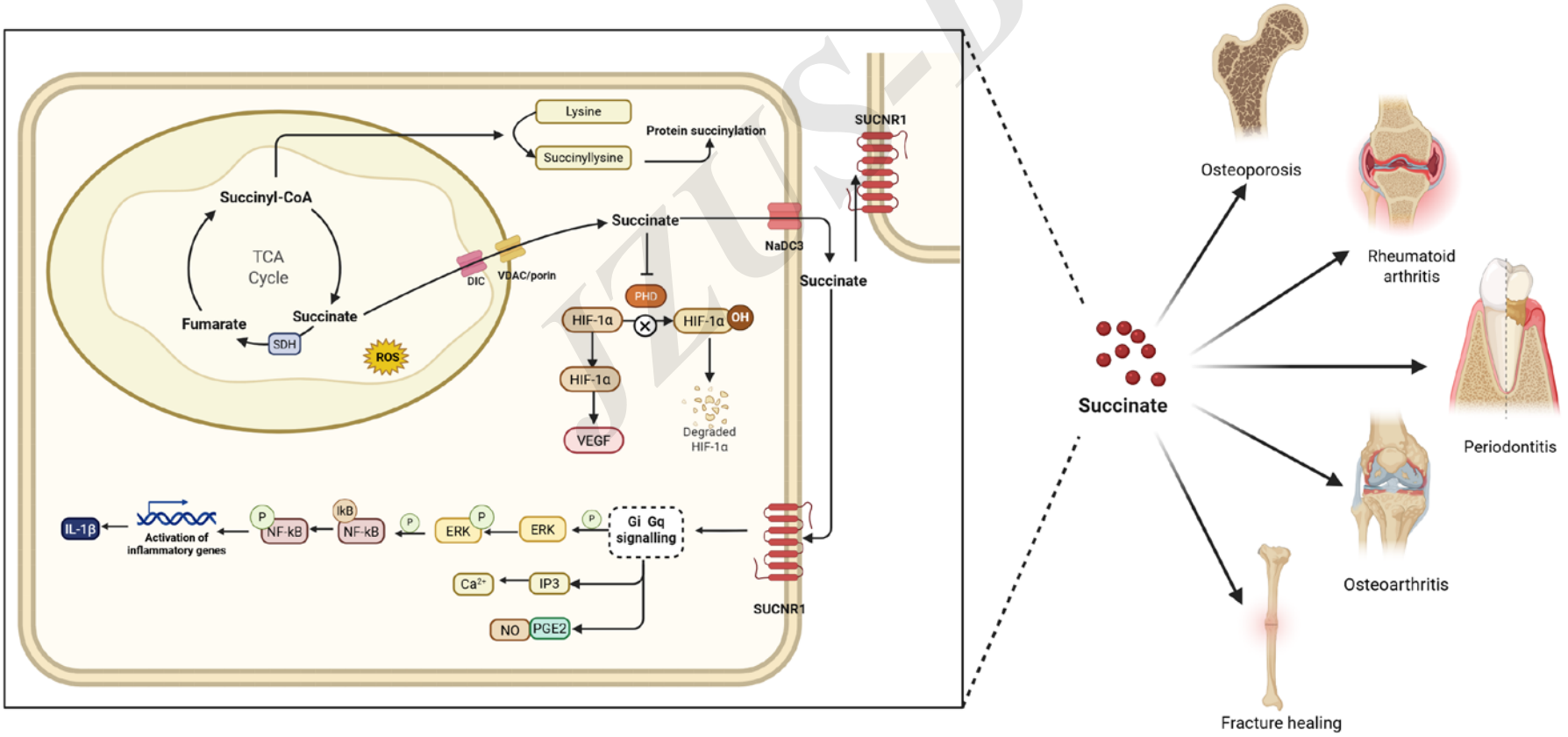


Image created with BioRender.com

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.

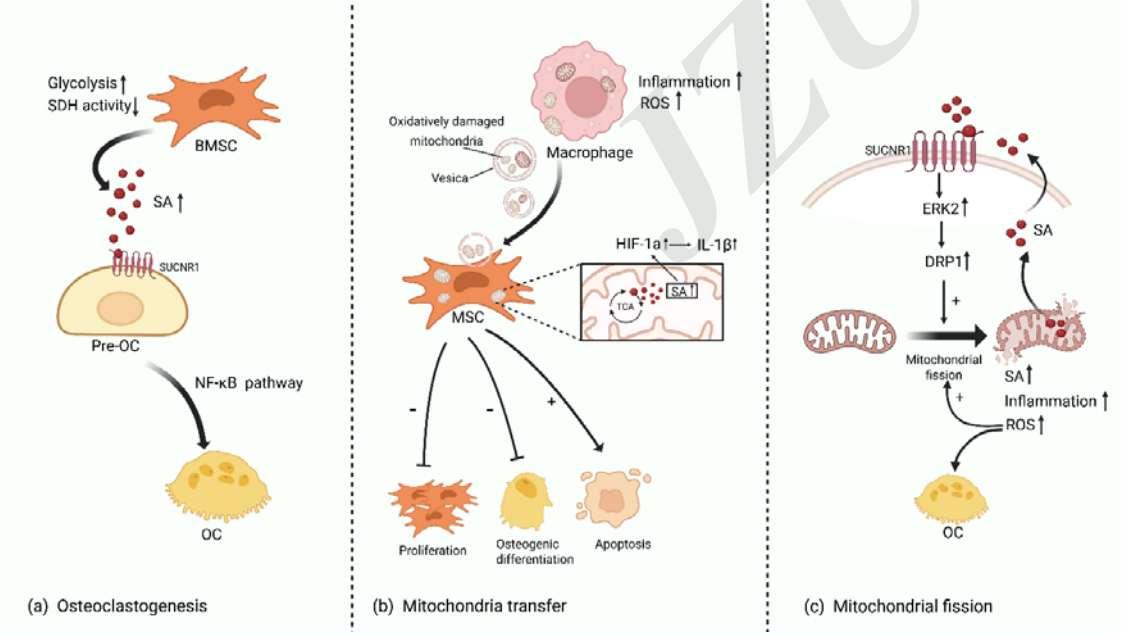


Figure 3 Role of succinate in osteoporosis.

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