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Osteogenic effects of antihypertensive drug benidipine on mouse MC3T3-E1 cells in vitro

Key words: Benidipine, Osteoblast, Osteogenesis, MC3T3-E1

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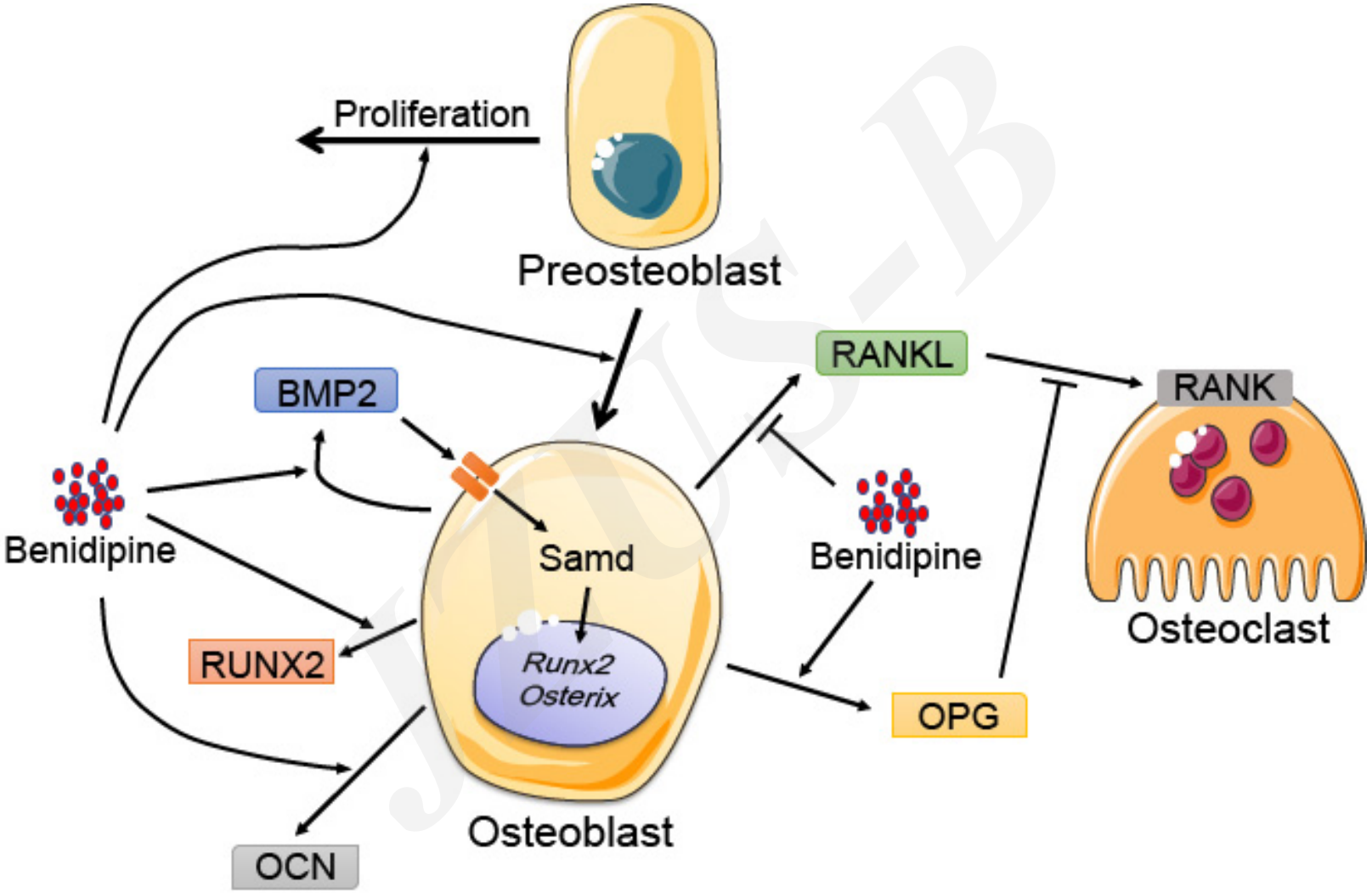
Research Summary

This study mainly investigated the promoting effect of an antihypertensive drug, benidipine(BD) on the proliferation, osteogenic differentiation of mice preosteoblasts-MC3T3-E1 cells.

- **Higher proliferation of MC3T3-E1 cells**
- **Higher osteogenic differentiation of MC3T3-E1 cells**
- **BMP2/Smad signaling might account for the effects**
- **Potential suppressing effect BD of on osteoclast activity through OPG/RANKL/RANK signaling**

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Research Summary



Innovation points

- **Report** of an classical antihypertensive drug-BD with its considerable promoting effect on osteogenic differentiation of mice preosteoblasts.

- **Primary investigation** of the mechanisms accounting for the promotion of BD.

- **Proposal** of the potential of BD in further research on its dual therapeutic effect on hypertensive patients with poor skeletal conditions

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