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## Manuscript Title:

Butyrate promotes migration, invasion, and epithelial–mesenchymal transition of oral squamous cell carcinoma cells

## Date of Revision:

January 25, 2022

### Abstract:

**Background:** Oral squamous cell carcinoma (OSCC), the most common type of primary malignant tumor in the oral cavity, is a disease with high recurrence and mortality rates. Butyrate, a metabolite produced by periodontal pathogens, has been linked to oral diseases. The purpose of this study was to evaluate the effect of sodium butyrate (NaB) on the proliferation, migration, and invasion of OSCC cells in vitro and to explore the potential mechanism.

**Methods:** Two OSCC cell lines (HSC-4 and SCC-9) were treated with NaB at different concentrations. The cell proliferation was assayed by CCK-8, ethylene deoxyuridine (EdU), and flow cytometry. Wound healing and transwell assay were performed to detect cell migration and invasion. Changes in epithelial–mesenchymal transition (EMT) markers, including E-cadherin, Vimentin, and SNAI1, were evaluated by quantitative real-time PCR (qRT-PCR), western blot, and immunofluorescent staining. The expression levels of matrix metalloproteinases (MMPs) were analyzed by qRT-PCR and ...

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