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***In vitro* antibacterial activities of *Scutellaria baicalensis Georgi* against cariogenic bacterial**

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Abstract *Scutellaria baicalensis Georgi* has been used for thousands of years in traditional Chinese medicine practice for several purposes. It possesses several biological activities such as anti-oxidative, anti-inflammatory, antibacterial and antiviral activities. Although the antibacterial activity of *Scutellaria baicalensis Georgi* has already been demonstrated, little is known about its antibacterial activity against oral pathogens *in vitro*. Therefore, the aim of this study is to evaluate the antibacterial activity by six different kinds of *Scutellaria baicalensis Georgi* extracts *in vitro*. The three kinds of bacterial strains were used as follows: *Streptococcus mutans* ATCC 25175, *Streptococcus sobrinus* ATCC 33478 and *Streptococcus salivarius* ATCC 7073. The antibacterial activity was determined by the agar diffusion method, and the zones of growth inhibition were measured. The MIC's and MBC's were determined by the broth dilution and agar dilution methods. The bactericidal activity was determined by time-kill assay. In all the *Scutellaria baicalensis Georgi* solvent extracts, except for water and ethyl acetate, a significant inhibitory activity was observed. The acetone and 80% ethanol, and the ethanolic extracts showed higher activity than the methanol extracts and produced inhibition zones ranging from 7.11 ± 0.18 to 14.79 ± 1.02 mm in diameter at a concentration of $750 \mu\text{g}/\text{disk}$. The MIC value of the *Scutellaria baicalensis Georgi* extracts ranged from 125 to 1,000 $\mu\text{g}/\text{ml}$. The MBC values for different strains and extracts ranged from 250 to 2,000 $\mu\text{g}/\text{ml}$. Thus, *Scutellaria baicalensis Georgi* would be useful for the suppression of oral pathogens, and has the potential for use in the prevention of dental caries.

Key words Antibacterial activity, *Scutellaria baicalensis Georgi*, Streptococci

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