

Title: **Polyphenol-Rich Food Colourant G8000™ Inhibits Gut Microorganisms *in vitro* And Increase Number of Bowel Movements In Humans**

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ABSTRACT

G8000 is a natural polyphenol rich food colourant obtained from grape juice. We investigated the antimicrobial potential of G8000 in different gut microorganisms *in vitro* and assess G8000 effects in the intestinal transit of healthy volunteers. Antimicrobial activity of G8000 was tested by agar diffusion and minimal inhibitory concentration (MIC) assay. Additionally, 15 healthy individuals consumed G8000 daily for 28 days and the number of bowel movements was assessed. The results of the microbial growth in agar showed antimicrobial activity of G8000 against *Staphylococcus aureus* and *Pseudomonas aeruginosa*, but not against *Escherichia coli* or *Candida albicans*. As for the MIC assay, G8000 was able to inhibit all tested microorganisms at different concentrations. The number of daily bowel movements increased from $0.81 \pm 0,47$ in day 0 to $1.31 \pm 0,47$ after 28 days of G8000 intake, in average ($p=0,02$). We conclude that G8000 demonstrated specific antimicrobial activity with possible association with increased bowel movement.

KEYWORDS

Natural food colourant, grape, polyphenols, antimicrobial activity, gut microorganisms

