

## Formulation Assay Of An Aloe Vera-based Oral Gel And Its Effect On Probiotics

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**Abstract :** Algeria is a Mediterranean country which provides an ideal habitat for a wide range of species of medicinal plants. The objective of this current work is to extract the gel contained in the leaves of Aloe vera in order to formulate an oral gel as a prebiotic and see its effects on probiotics (lactic and pseudo lactic bacteria and bifido bacterium). Aloe vera polysaccharid extract is a matrix mainly composed of non-digestible oligosaccharids or slow-fermentation polysaccharids, as this produces a lower pH. The behavior of Aloe vera during in vitro fermentation of the colon was similar to that of lactulose, indicating the possibility of using Aloe vera and its polysaccharids extracts as a prebiotic. The microbiological control of the two kinds of bacteria (bifidobacteria and staphylococci) has demonstrated the gel capacity to stimulate them by these bioactive compounds. The generation time of Bifidobacteria in fermented milk with added prebiotic Aloe vera gel is 80.408 min with a  $\mu$  growth rate equal to 0.012 min<sup>-1</sup>. The doubling time is 61.459 min with a growth rate  $\mu$  equal to 0.016 min<sup>-1</sup> for the Streptococcus sp. species.

**Keywords :** aloe vera, probiotics, prebiotics, growth rate, bifidobacteria

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