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Purification and Some Properties of gums oligosaccharides
by *Bacillus* sp. β -Mannanase

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Bacillus sp. β -Mannanase was purified by DEAE-sephadex ion exchange column chromatography. The specific activity of the purified enzyme was 21.5 units/ml protein, representing an 95.3-folds purification of the original crude extract. The final preparation thus obtained showed a single band on SDS-polyacrylamide gel electrophoresis. The molecular weight was determined to be 38.9 kDa. Gum galactomannan was hydrolyzed by the purified β -Mannanase, and then the oligosaccharides was separated by activated carbon column chromatography and Sephadex G-25 gel filtration. The main oligosaccharides were composed of D.P.(Degree of Polymerization) 5 and 7 galactosyl mannoooligosaccharides. To investigate the effects of gum galactosyl mannoooligosaccharides on *in vitro* growth of *Bifidobacterium longum*, *B. bifidum*, *B. infantis*, *B. adolescentis*, *B. animalis*, and *B. breve*. *Bifidobacterium* spp. were cultivated individually on the modified-MRS medium containing carbon source such as D.P. 5 and D.P. 7 galactosyl mannoooligosaccharides, respectively. *B. longum* and *B. bifidum* grew up 10-fold and 9.8-fold more effectively by the treatment of D.P. 5 galactosyl mannoooligosaccharides, compared to those of standard MRS medium. Especially, D.P. 5 was more effective than D.P. 7 galactosyl mannoooligosaccharides on the growth of *Bifidobacterium* spp.

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Efficiency of Palmarosa, Neroli, and Jasmin essential oil on dry skin
inflammation induced by kitchen detergent

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The effectiveness of Palmarosa Neroli and Jasmine essential oil on dry skin of rat induced by kitchen detergent are investigated. The dietary efficiency showed a tendency in group reduction compared to the control group, and displayed the lowest surfactant repeated applications that had given rise to skin inflammation. It can be deduced that the stress resulting from skin inflammation had caused the drop in the dietary efficiency. A.I. level of all test groups did not show any significance during the serum analysis, but in case of sole use, A.I level blends and causes the chances of hardening of the arteries taking place to lower. According to the protein analysis results, Neroli essential oil application turned out to be most similar to the compared group, followed by Jasmin essential oil, which also displayed similar characteristics. The collagen layer's breakaway resulting from Palmarosa essential oil, the collagen layer's restoration resulting from Neroli essential oil, the collagen layer's retention hyperkeratosis resulting from Jasmin essential oil were observed during the observation of the structure of the pidermal layer. It could also be observed that there were restoration results for the skin inflammations after surfactant processing on each oil application. Mast Cell research aimed at recognizing inflammatory reactions show that mast cell's size and number increased in surfactant repeated applications compared to being in the compared group. The number of mast cells definitely decreased in each group which were processed with Neroli essential oil.