



Growth Conditions Influencing Extracellular Alkaline Protease from Haloalkaliphilic *Bacillus circulans* L. Isolated from Saline Soil

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Abstract: Three haloalkaliphilic bacteria were isolated from alkaline (pH 8.84) and hyper saline soil (TSS 19 mS/cm) collected from Al- Malileh at the north of Al-Madinah Al-Munawrah. These were *Bacillus circulans*1, *B. sphaericus* and *B. brevis*. Qualitative screening and quantitative estimation for protease production by the isolates revealed that *B. circulans*1 was the most potent producer followed by *B. sphaericus* and *B. brevis*. The maximum protease production was observed after inoculating the culture broth (pH 8.5) with *B.circulans*1 inoculums of 48 h age and incubated under shaking at 45°C for 48 h. Presence of 0.5% sucrose, 1% NH₄ NO₃ and 10% NaCl in the growth medium achieved maximum protease production.

Key words: *saline soil, halophiles, alkaliphiles, Bacillus, alkaline, protease, production, optimization.*

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