

## Optimization of cultural conditions for production of chitinase by *aeromonas* sp. ZD-05

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**Background and Aims:** chitinase is one of the important industrial enzymes, which is used in the agriculture industry, food industry, insect control, pharmacology, medical and biotechnology. Chitinase enzyme produced by different microorganisms which bacteria are one of the most important chitinase producers. In this study we aimed to optimize the cultural conditions for production of chitinase by *Aeromonas* sp. ZD-05.

**Methods:** *Aeromonas* sp. ZD-05 was isolated from wastewater of shrimp which were collected from Persian Gulf. Optimization of cultural conditions for production of chitinase by newly strain were carried out by keeping all factors constant except the one which was studied. The factors are including the incubation period (24-72h), incubation temperature (25, 30, 37, 42°C), pH (5-9), different concentration of colloidal chitin (0.5,1,1.5,2,2.5%), different nitrogen sources including organic nitrogen sources (Peptone, Argenin, Tripton), inorganic nitrogen sources (Potassium nitrate, Ammonium sulfate, Ammonium nitrate).

**Results:** Maximum chitinase production by the strain ZD-05 was observed in temperature 30°C, pH 7, 1% of colloidal chitin and 0/07% of peptone, after 72 h of incubation.

**Conclusions:** This microorganism may be useful for treatment of chitinous waste and also for production or different products of hydrolyze chitin for various applications.

**Keywords:** Chitinase; *Aeromonas* sp; Screening; Optimization of cultural