Abstract

Today, pectinases are upcoming enzymes at industrial scale. These enzymes use in fruit juice clarification, degumming of fibers, coffee and tea fermentation, wastewater treatment, papermaking ext (1).

Among them pectin lyase has great attention because it degrades its substrate directly by β-elimination mechanism but the other pectinases act on their substrate sequentially. As a result, 4,5-unsaturated oligogalacturonides were formed by pectin lyase (Fig.1.). In addition to this, pectin lyase doesn't disturb ester compounds in fruit juice samples, these compounds responsible for specific aroma of fruit juices (2).

![Fig.1. Action mechanism of pectin lyase (3).](image)

In this study, pectin lyase was produced in submerged culture with *Aspergillus niger*. Microorganisms were isolated from hot water sources in Turkey. Pectin lyase was purified with two steps: ammonium sulphate fractionation and gel filtration chromatography. We obtained 44 purification fold after ammonium sulphate fractionation. Then, purified enzyme was applied on lemon juice samples. Clarification tests were carried out.

**Keywords:** pectin lyase, purification, fruit juice application.

References

