

## Original Paper

# Anti-proliferative and apoptotic effects of Lovastatin on K562 Erthromyloidy cancer cell line

Vaezi M (M.Sc)<sup>1</sup>, Mohammadzadeh M (Ph.D)<sup>\*2</sup>, Pazhang Y (Ph.D)<sup>2</sup>

<sup>1</sup>M.Sc in Biochemistry, Department of Biology, Faculty of Sciences, Urmia University, Urmia, Iran.

<sup>2</sup>Assistant Professor, Departemant of Biology, Faculty of Sciences, Urmia University, Urmia, Iran.

---

## Abstract

**Background and Objective:** Lovastatin is a HMG-CoA reductase inhibitor and used for the treatment of hypercholesterolemia. Inhibition of HMG-CoA reductase results in inhibiting the activity of the Ras proto-oncogene that has mutations in most cancers. This study was done to determine the Anti-proliferative and apoptotic effects of Lovastatin on K562 Erthromyloidy cancer cell line.

**Methods:** The K562 Erthromyloidy cancer cell line were cultured and treated with different concentrations of lovastatin. Their antitumor effect on K562 cells were assessed via MTT assay after 72 hours. Hoechst (33342) staining and DNA electrophoresis were used for study of apoptosis.

**Results:** Lovastatin had antitumor effect on K562 Erthromyloidy cancer cell line and this effect increased by incese of time and concentration. The maximum inhibitory effect was 59% in higher concentration (100  $\mu$ M) and 72 hours after the treatment. Reduced cell growth at 24 and 48 hours after treatment was 24% and 43%, respectively. Lovastatin significantly inhibited K562 cell growth ( $P < 0.05$ ).

**Conclusion:** This study showed that lovastatin has antitumor effect on K562 Erthromyloidy cancer cell line.

**Keywords:** K562 Erthromyloidy cancer cell line, Lovastatin, Hoechst staining, DNA electrophoresis

---

**\* Corresponding Author:** Mohammadzadeh M (Ph.D), E-mail: m.mohamadzade@urmia.ac.ir

Received 29 Jun 2016

Revised 29 Jan 2017

Accepted 19 Feb 2017