



## **Anticancer Activity of bioactive peptides extracted from Rainbow trout (*Oncorhynchus mykiss*) skin**

Yaghoubzadeh Z.<sup>1\*</sup>; Safari R.<sup>1</sup>; Roohi A.<sup>1</sup>

1-Agricultural Research, Education and Extension Organization (AREEO), Iranian Fisheries Science Research Institute (IFRSI), Caspian Sea Ecology Research Center (CSERC), Sari, P.O. Box 961, Iran

\* Corresponding author's email: za\_yaghoub@yahoo.com

### **Abstract**

Bioactive peptides are those proteins that have 2 to 20 amino acids in their molecular structure and are important due to beneficial biological activity as well as positive effects on human health. Research The aim of this study was to extract and purify bioactive peptides from rainbow trout in order to evaluate the anticancer property of extracting peptides in vitro. In this study, rainbow trout skin (*Oncorhynchus mykiss*) was hydrolyzed using Alcalase and Flavourzyme enzymes and separated by membrane ultrafiltration method (less than 3, between 30-3 and more than 30 kDa). The results of anticancer activity using the MTT assay and the HCT-116 cell line showed that the hydrolyzed protein with a molecular weight of less than 3 kDa contained the highest inhibitory concentration in vitro. Therefore, rainbow trout peptides can be a source of biologically active peptides with anticancer effects on HCT-116 colon cancer cells in vitro, that can be used as a natural antioxidant in food.

**Keywords:** Bioactive Peptides · Anticancer Activity · Clone cancer - Rainbow trout