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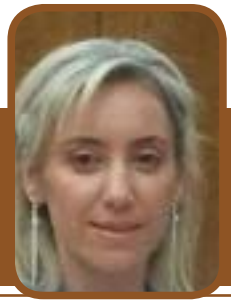

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Immunohistochemical distribution of androgen receptor in male and female Dwarf Hamsters' (*Phodopus roborovskii*) genital tissues and analyzing of heavy metal levels in some freshwater fish in Keban Dam lake in Turkey

Androgens are essential for the normal development and functional maintenance of reproductive organs. Testosterone is the principal circulating androgen; it is synthesized mostly as androgenic precursors in the gonads. Androgens exerts their effects on target tissues mainly through the androgen receptor (AR). In this study, AR localization was investigated in female and male dwarf hamsters' genital tissues. In the present study, 6 female and 6 male animals were used. After anesthesia, the tissues to be worked were quickly removed from the body and fixed in 10% buffered neutral formalin, and embedded in paraffin. Sections were stained after microwave antigen retrieval for immunohistochemistry. Although AR positive immunostaining was observed only in cell nuclei in testis, caput epididymis, prostate gland and vesicle seminalis tissues, it was observed in cytoplasm or nucleus of the cells in the ovarium and oviduct tissues. In testis AR immunostaining was detected in the nuclei of peritubular myoid cells, pericytes, Sertoli cells, and Leydig cells, but not in germ cells. Positive immunohistochemical staining for the AR was observed in prostate and seminal vesicle cells such as luminal epithelial cells and stromal cells. Although, in ovarium some of the granulosa and theca cells were showed nuclear staining others were showed cytoplasmic staining. AR localization in dwarf hamster male and female genital tissues was similar to other species. The presence of AR in genital tissues supports the idea that androgens are essential for these tissues. The aim of this study is to determine the possible potential human risk of consumption of Cyprinus carpio, Squalius cephalus and Capoeta umbla fish species from Keban Dam Lake in term of metal concentrations. The natural aquatic ecosystems may extensively be contaminated with heavy metals released from domestic, industrial and other anthropogenic activities. The accumulation of toxic metals to hazardous levels in aquatic biota has become a problem of increasing concern. The accumulation of iron, zinc, copper and cobalt in the muscles of three freshwater fish (Cyprinus carpio, Squalius cephalus and Capoeta umbla) from Keban Dam Lake (Turkey) were investigated between September 2009 and April 2010. The concentration of heavy metals were found as Zn>Fe>Cu>Cd respectively. A positive relationship was found between heavy metal levels and fish size. The levels of all metals analysed in muscles of females were found to be higher than those in males. Our results showed that heavy metal levels which analyzed in this study in the muscles of three fish species from Keban Dam Lake were under the dangerous limits given by EPA and FAO and therefore there is no any risk for public consumption.

Biography

Zeliha Selamoglu is a Professor in Medical Biology department of Nigde Omer Halisdemir University, Turkey. She earned her PhD in Biology from Inonu University, She has published over 90 peerreviewed journal articles with over 865 citations and many technical reports. She is a member of Society for Experimental Biology and Medicine: Associate Membership and European association for cancer research. She has served as Editorial Board member for many Journals. Her research Interest focuses on Medical Biology, Molecular Biology, Biochemistry, Biotechnology, Oxidative stress, Antioxidants, Cancer.

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