

Faculty of Science

Department: Chemistry

Name: Ehab M.M. Ali

Title: Fasciola gigantica: Purification and characterization of adenosine deaminase

Authors: Ehab M.M. Ali

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Abstract:

Nucleotidase cascades (apyrase, 5' nucleotidase, and adenosine deaminase (ADA) were investigated in the parasitic trematode *Fasciola gigantica*. ADA had the highest activity in the nucleotidase cascades. Adenosine deaminase was purified from *F. Gigantica* through acetone precipitation and chromatography on CM-cellulose. Two forms of enzyme (ADAI- ADAII) were separated. ADAI, ADAII were separated. ADAII was purified to homogeneity after chromatography on Sephacyl S-200. The molecular mass was 29 KDa for the native and denatured enzyme using gel filtration and SDS-PAGE, respectively. The enzyme (ADAII) had a pH optimum at 7.5 and a Km 1.0 mM adenosine, a temperature optimum at 40 C and heat stability up to 40 C. The order of effectiveness of metals as inhibitors was found to be $Hg^{2+} > Mn^{2+} > Cu^{2+} > Ca^{2+} > Zn^{2+} > Ni^{2+} > Ba^{2+}$.

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Name: Ehab M.M. Ali

Title: TGF- β 1, TNF- α and cytochrome c in human astrocytic tumors: A short-term follow up and correlation with survival

Authors: Gamal M. Mabrouk, Ehab M.M. Ali, Mahmoud A. El-Rehany & Hatem M. El-Samoly

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Abstract:

To evaluate the association of signals of apoptosis namely, TGF- β 1, TNF- α and cytochrome c release in cytoplasm with survival rate to determine the potential use of such parameters as predictive markers for patients with astrocytomas.

We measured TGF- β 1, TNF- α and cytoplasmic c in 30 astrocytic tumors Grade II, III and IV. We found that TGF- β 1, TNF- α and cytochrome c release in Grade IV tends to be significantly lower than those in Grade II, whereas TGF- β 1 did not significantly change in the different grades. Patients with astrocytic tumors having elevated cytochrome c showed a better survival rate compared to those with less release. There is neither a correlation shown between TNF- α and cytochrome c release nor between TNF- α and patient survival. TGF- β 1 was positively correlated with cytochrome c release. Patients showing such correlation had increased survival rate over 18 months follow up period.

These data suggest that TGF- β 1 and cytochrome c may be useful prognostic markers that help patients' stratification and in adjusting the disciplines of therapy.

Keywords:

TGF- β 1, TNF- α , cytochrome c; apoptosis, glioma, survival