

Identification of specific gene(s) in *S. mansoni* encoding for antigenic proteins from cDNA expression library.

Thesis submitted for fulfillment of
the requirement of the degree of
Master of Science
(Biochemistry)

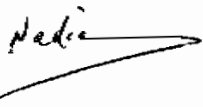
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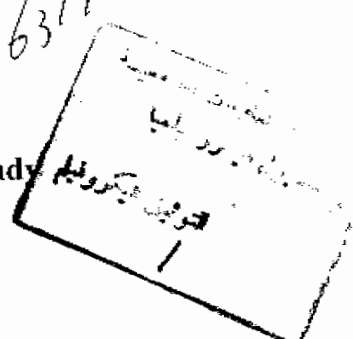


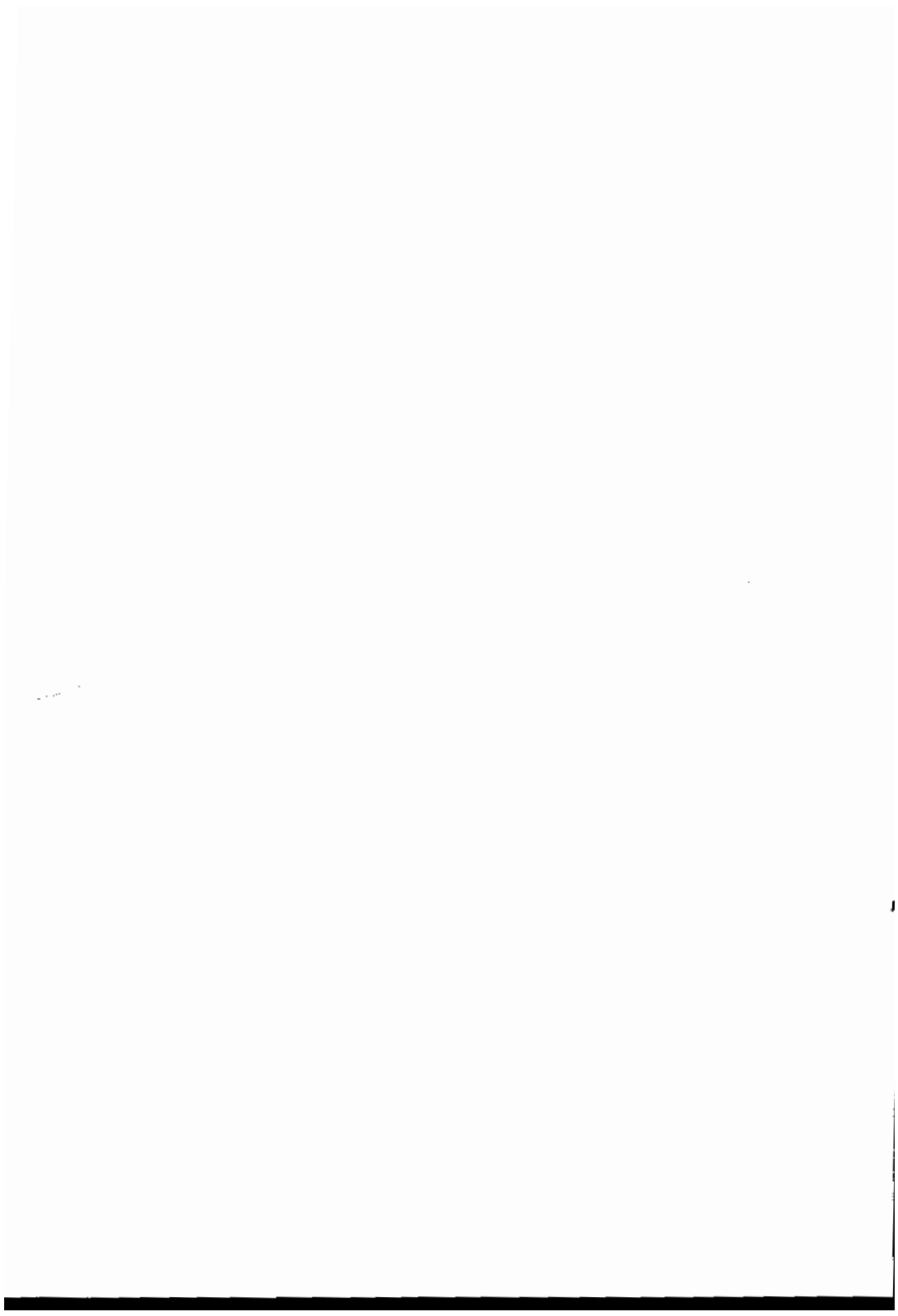
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the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million, from 2.5 million in 1980 to 4 million in 1995. The public sector has become a major employer in the UK, and its growth has been a major factor in the overall growth of the economy. The public sector has also become a major source of employment for women, and its growth has been a major factor in the overall growth of the economy.

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ABSTRACT

Schistosomiasis is debilitating, and sometimes deadly, parasitic infection that affects hundreds of millions of people living in tropical and subtropical countries. Chemotherapy, using effective drug, does not give protection against reinfection, and in the same time the parasite resistance to the drug is increasing. Therefore, vaccine development became one of the hopes for controlling this disease.

In this study a cDNA clone of *S. mansoni* encoding an antigenic protein have been isolated from an adult worm cDNA expression library. The library was screened with chronic human serum. The clone was identified as a 786bp (Ad3), and an ORF of 600 bp. PCR amplification, using two primers flanking the ORF, of the genomic DNA of the adult worm, suggested the presence of short intron sequences. DNA homology analysis of Ad3 revealed the presence of very high homology (98.7%) with a putative eggshell protein gene of *S. mansoni* (SMEGGPRO). The presence of some nucleotide insertions, deletion and substitutions resulted in a different deduced protein designated as Sm22. The protein homology to SMEGGPRO was 83.4%. In addition, it gave significant homology to two vitelline precursors and putative eggshell precursor of *Fasciola hepatica*. Sm22 may be an iso form of SMEGGPRO isolated from Egyptian *S. mansoni* strain.

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The first part of the paper discusses the importance of the environment in the development of the human mind. It argues that the environment plays a crucial role in shaping the child's cognitive and emotional development. The second part of the paper explores the role of the family in the child's development. It discusses how the family environment can either support or hinder the child's growth. The third part of the paper examines the impact of social interactions on the child's development. It argues that children learn a great deal from their interactions with others. The fourth part of the paper discusses the role of the school in the child's development. It argues that the school environment can provide a structured and supportive environment for the child's learning. The fifth part of the paper discusses the role of the community in the child's development. It argues that the community can provide a sense of belonging and support for the child. The sixth part of the paper discusses the role of the culture in the child's development. It argues that the culture can shape the child's values and beliefs. The seventh part of the paper discusses the role of the media in the child's development. It argues that the media can have a significant impact on the child's development. The eighth part of the paper discusses the role of the technology in the child's development. It argues that technology can provide new opportunities for the child's learning. The ninth part of the paper discusses the role of the environment in the child's development. It argues that the environment can provide a rich and stimulating environment for the child's development. The tenth part of the paper discusses the role of the family in the child's development. It argues that the family can provide a loving and supportive environment for the child's development.

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