

بسم الله الرحمن الرحيم





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التوثيق الالكتروني والميكروفيلم



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**ANTIGEN DETECTION FOR IMMUNODIAGNOSIS OF
SCHISTOSOMA HAEMATOBIIUM INFECTION:
EVALUATION OF PURIFIED CATHEPSIN L CYSTEINE
PROTEINASE IN RELATION TO OTHER CIRCULATING
ANTIGENS.**

Thesis

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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Abstract

Schistosomiasis haematobium is a serious public health problem in Egypt. Detection of *S.haematobium* antigens is a better immunodiagnostic tool than determination of the antibody level. In this study sandwich ELISA was used to detect L cathepsin antigen in both serum and urine samples of humans. A comparative evaluation of the performance of L cathepsin was performed in relation to two other antigens; crude worm antigen and soluble egg antigen. Detection of L cathepsin in serum gave a sensitivity of 95%, a specificity of 93.7% compared to other parasitic infections group and 100 % compared to healthy control group. On the other hand, detection of L cathepsin in urine gave a sensitivity of 91%, a specificity of 93.7% compared to other parasitic infections group and 100% compared to the healthy control group. L cathepsin OD value correlates significantly with infection intensity.

Key words:

Schistosoma haematobium-Cathepsin L- sandwich ELISA.

List Of Abbreviations

ADCC	Antibody dependant cellular cytotoxicity
AMC	7-amino-4-methylcomarin
BSA	Bovine serum albumin.
C1	Complement 1.
CAA	Circulating anodic antigen.
CAP	Cercarial antigen preparation.
CCA	Circulating cathodic antigen.
CD	Cluster of differentiation.
CE	Cercarial elastase
CT	Computed tomography.
DNA	Deoxyribonucleic acid.
DOC	Deoxycholic acid
D-SEA	Dead soluble egg antigen.
ECA	<i>Escherichia coli</i> antigen
ECP	Eosinophil cationic protein.
EDN	Eosinophil derived neurotoxin.
<i>E. granulosus.</i>	<i>Echinococcus granulosus.</i>
EIA	Enzyme Immune Assay.
EITB	Enzyme linked immunotransfer blot.
ELISA	Enzyme linked immunosorbent assay.
EPO	Eosinophil peroxidase
EPX	Eosinophil protein X.
E/S	Excretory secretory product.
FAST	Falcon assay screening test.
Fc	Fragment of crystallization.
FCS	Fetal calf serum.
GASP	Gut associated schistosome proteoglycan.
HAMA	Haematobium adult microsomal antigen.
<i>H.nana</i>	<i>Hymenolepis nana</i>
HRP	horseradish peroxidase.
IFA	Indirect fluorescent antibody.
IFN γ	Interferon gamma.
Ig	Immunoglobulin.
IHAT	Indirect haemagglutination test.
IL	Interleukin.
IVP	Intravenous pyelography.
KDa	Kilodalton.
LDNF	LacdiNac fucosylate
L-SEA	Living SEA.
M	Mole.
MAC	Membrane attack complex
MAMA	Mansoni adult microsomal antigen.
MBL	Mannose-binding lectin.

MBP	Major basic protein.
MIFc	Merthiolate-iodine-formaldehyde concentration.
mM	Millimole.
MOHP	Ministry of Health and Population.
MRI	Magnetic resonance imaging.
M-SEA	Mixed soluble egg antigen.
Na	Sodium.
O.D.	Optical density.
OPD	O-phenylenediamine dihydrochloride.
PBS	Phosphate buffered saline
PCR	Polymerase chain reaction.
P-value	Probability value.
r	correlation coefficient
r.p.m.	Round per minute.
rRna	Ribosomal Ribonucleic acid
SAS	Saturated ammonium sulfate solution.
<i>S. bovis</i>	<i>Schistosoma bovis</i>
SBSC	Schistosome Biological Supply Center
SD	Standard deviation.
SDS-PAGE	Sodium dodecyl-sulfate polyacrylamide gel electrophoresis
SEA	Soluble egg antigen.
<i>S. haematobium</i>	<i>Schistosoma haematobium</i> .
<i>S. intercalatum</i>	<i>Schistosoma intercalatum</i>
<i>S. japonicum</i>	<i>Schistosoma japonicum</i> .
Sm TSP-2	<i>Schistosoma mansoni</i> Tetraspanin-2.
<i>S.magrebowiei</i>	<i>Schistosoma magrebowiei</i>
<i>S. mansoni</i>	<i>Schistosoma mansoni</i> .
<i>S. rhodaini.</i>	<i>Schistosoma</i>
SWAP	Soluble worm antigen preparation.
T	Tween.
TBRI	Theodor Bilharz Research Institute
Th1	T helper 1
Th2	T helper 2.
TNF	Tumour necrosis factor.
v	Volume
w	Weight.
WHO	World health organization.

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