

***Lumbricus terrestris* (Linnaeus, 1758)**

/ /

(NJC)**(2008/3/24) (2007/8/1)**

(CDA, EC.

Lumbricus terrestris 3.5.4.5)
 (7.2) Tris-HCl (300)
 (60) (8)
 . (15) (37)
 (1.1 ± 31.76)
L. terrestris
 (0.31 ± 20.24)
 . (1.81 × 10⁻³ M) (Km)
 (6) G-200
 . (95000)

Abstract

The present research includes a study of the activity and properties of enzyme cytidine deaminase (EC. 3.5.4.5) in the extract of earthworm *Lumbricus terrestris*.

Maximum activity of the enzyme was obtained in a reaction mixture containing (300) μM of Tris-HCl buffer at pH (7.2) containing (8) μM cytidine as a substrate and a concentration of enzyme extract equal to (60) μg. The reaction mixture was incubated at (37)°C for (15)min. Under the optimum conditions, the specific activity was found to be (31.76 ± 1.1) μM of uridine per min. per mg protein in the supernatant of *L. terrestris* extracts compared with (20.24 ± 0.31) μM of uridine per min. per mg protein. The Michaelis constant (Km) value was (1.81 × 10⁻³ M).

The research also included an isolation and partial purification of CDA by gel filtration chromatography using sephadex G-200, the number of purification folds for the CDA was (6), and the molecular weight was found to be a round (95000) D.

Lumbricus

terrestris

Annelida

Oligochaeta

Opisthoptera

(8)

(Pancreatic enzyme)

(2 1)

(9)

(Deaminases)

(4 3)

(10)

(5)

(16 15 14 13 12 11)

(CDA ,

EC. 3.5.4.5)

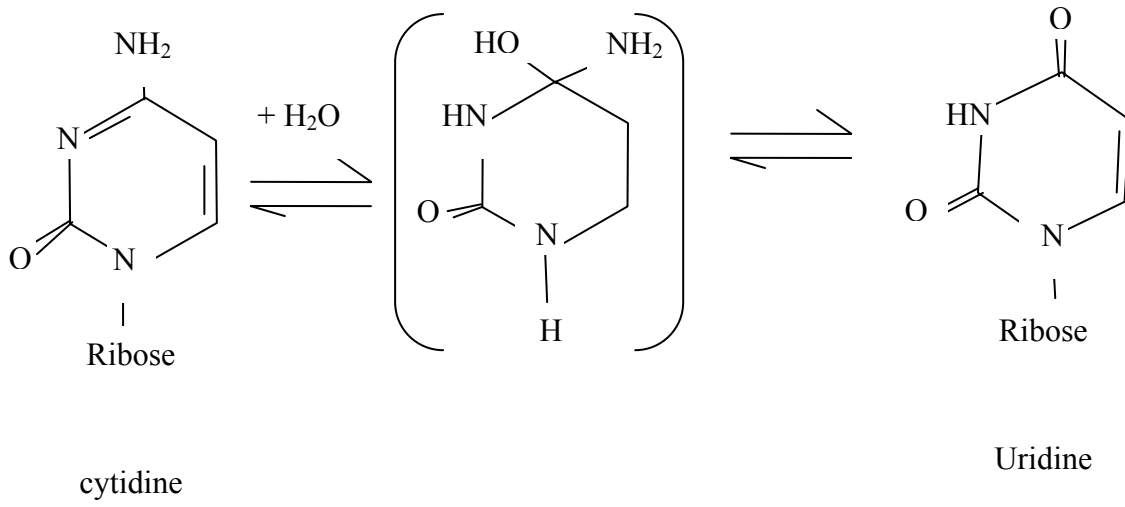
(Cytidine

aminohydrolase)

(7 6)

(18 17)

:



CDA

(19)

Lumbricus terrestris

Tris-HCl
(7.2)

(100)

(20)

DNA

(22 21)

CDA

(23 20 11)

(25)

(24 12)

(MSE-Homogenizer)

/ (400)

(28 27 26 21 15)

(Ultra-Sonic disintegrater)

/ (24.000)

(30)

(4)

(29) (45000 xg)

: :

.1 (Crude Homogenate)

. () .2 (Pellet) (Supernatant)

.3

× 2)

(100

(Sephadax – G – 200)

(90) (30) Sakai

(800000-5000)

(290)

³ (305))

() ³ (0.4) (³ 1

³ (0.4) (3)

(200) Tris-HCl

³ (0.2) (7.4)

. ()

(300) Tris-HCl (5) (37)

(7.2)

³ (4)

³ (2.5) (0.1)

(G – 200)

(290)

(/ ³ 25)

(6)

(Fraction Collector) (Molar Extinction

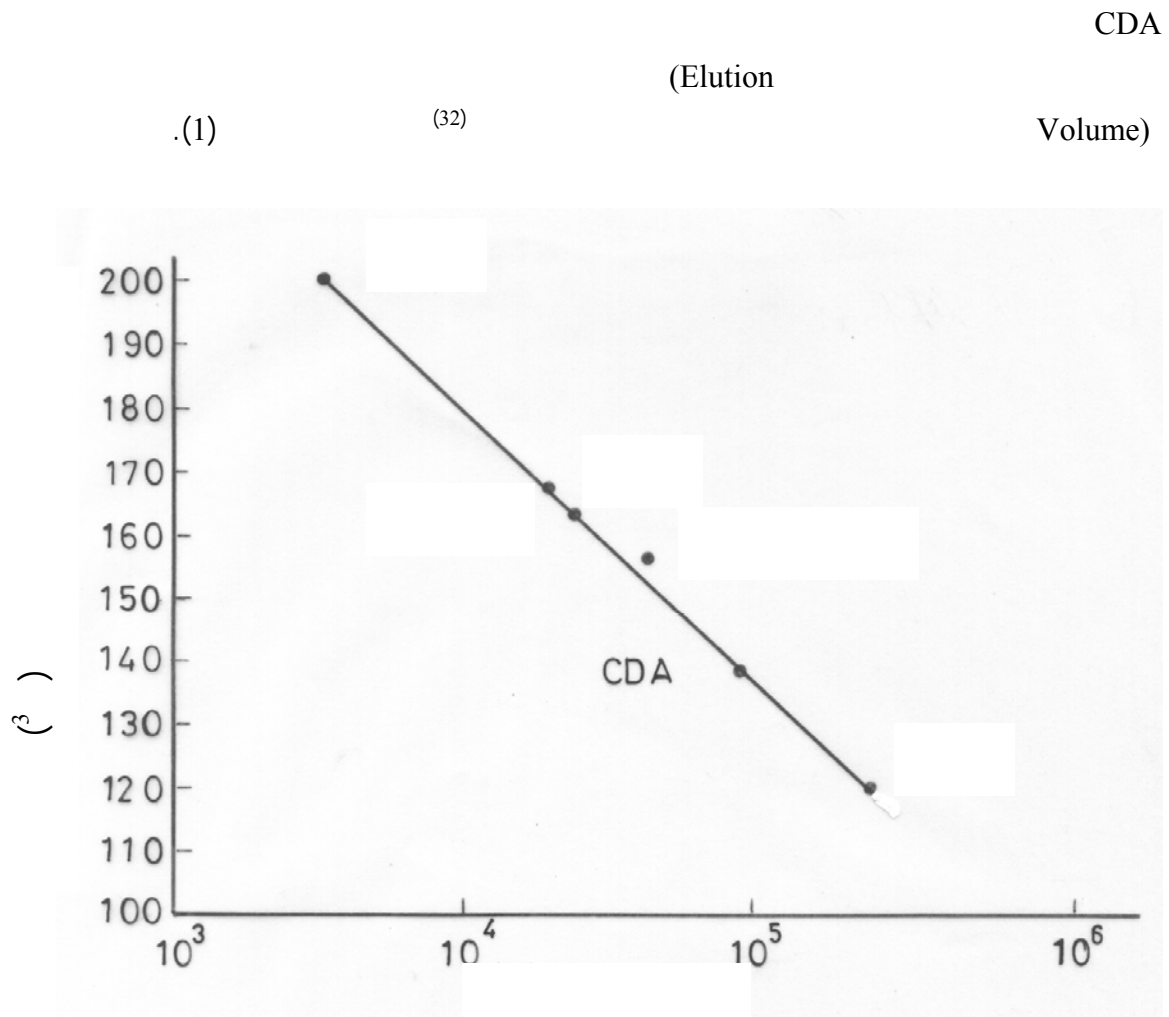
(2.2 mM⁻¹ Coefficient)

(280) (18) CM⁻¹)

(31)

CDA

(32) White Robyte



: 1

CDA

(1)

(% 169)

Lumbricus

CDA

terrestris

(45000 xg)

(290)

(34) *terrestris*

L.

Riftia pachyptila

: 1

Lumbricus terrestris

%	%	* ±	
-	100	0.25 ± 12.01	
69 +	169	0.31 ± 20.24	
44 -	56	0.22 ± 6.73	

/ / : •

CDA

(120-10)
(2) ()

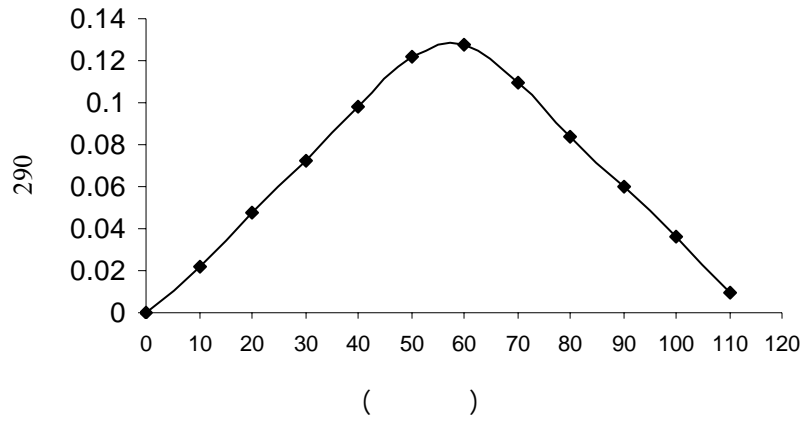
CDA

(Salvage Pathway of
(33) Pyrimidine Nucleotides)

()
(60)

(34) Dallal Bashi

(ES) -

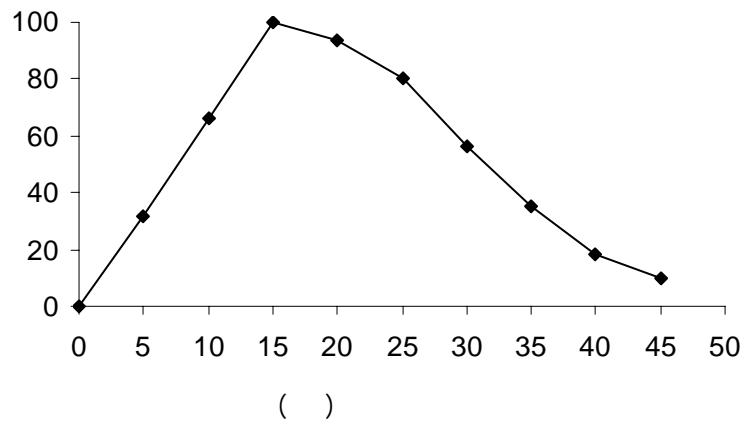


() : 2

L. terrestris

CDA (3)

(15) (15) (



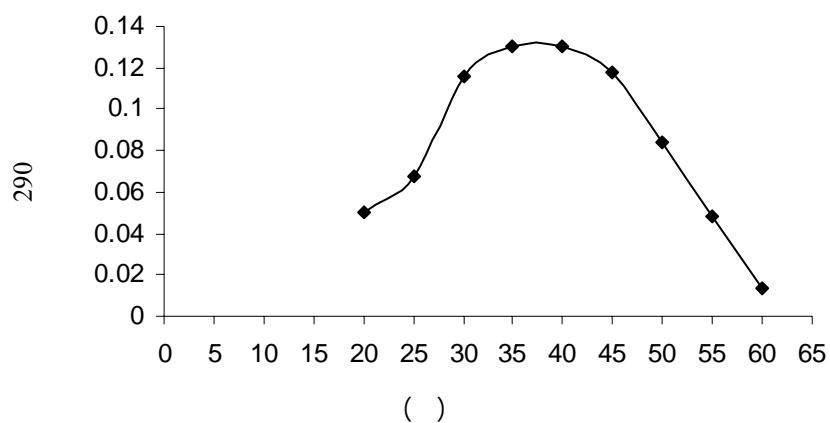
: 3

L. terrestris

⁽³⁵⁾ Al-Chalabi Hassan (40-35)

⁽²⁴⁾ *Entamoeba histolytica*)

Trichomonas vaginalis (37) (4



: 4

L. terrestris

Tris-

HCl

(2)

Tris-HCl

(3)

(7.4)

(200)

Tris-HCl

(300)

(7.4)

(0.35 ± 28.21)

L.

: 2

. terrestris

% +	* ± الخطأ	(Buffer)
100	0.35 ± 28.21	200 µM Tris-HCl
44	0.21 ± 12.53	200 µM Potassium phosphate
83	0.13 ± 23.51	200 µM Citric Acid , Sodium citrate

%100

*
+

Tris-HCl

: 3

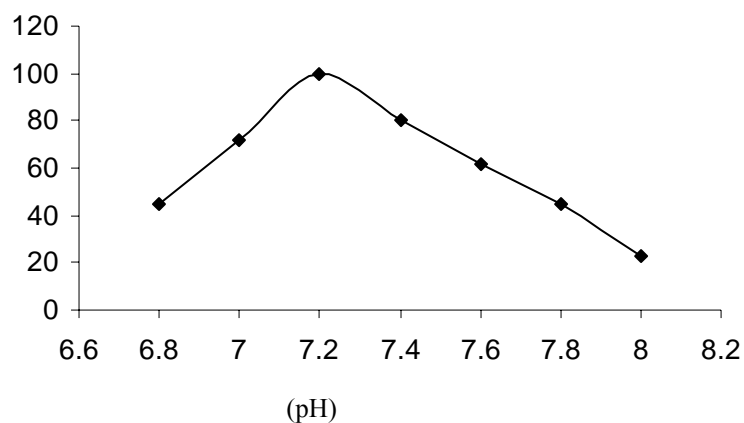
. *L. terrestris*

% +	* ± الخطأ	Tris- HCl
51	0.72 ± 15.67	100
92	0.35 ± 28.21	200
100	0.89 ± 30.53	300
68	1.11 ± 20.71	400

*
+

/ / :
%100 :

(7.2) CDA
(24) Tris-HCl (pH) (300)
(7.2) (5) (300)

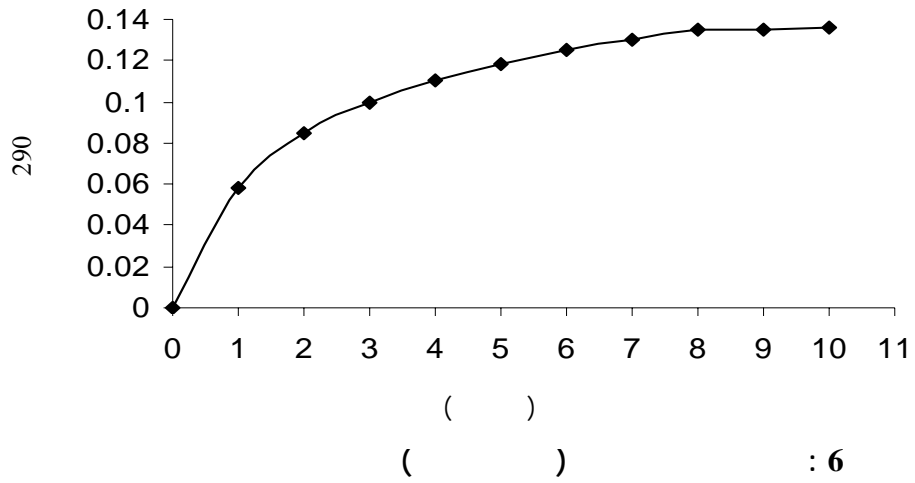


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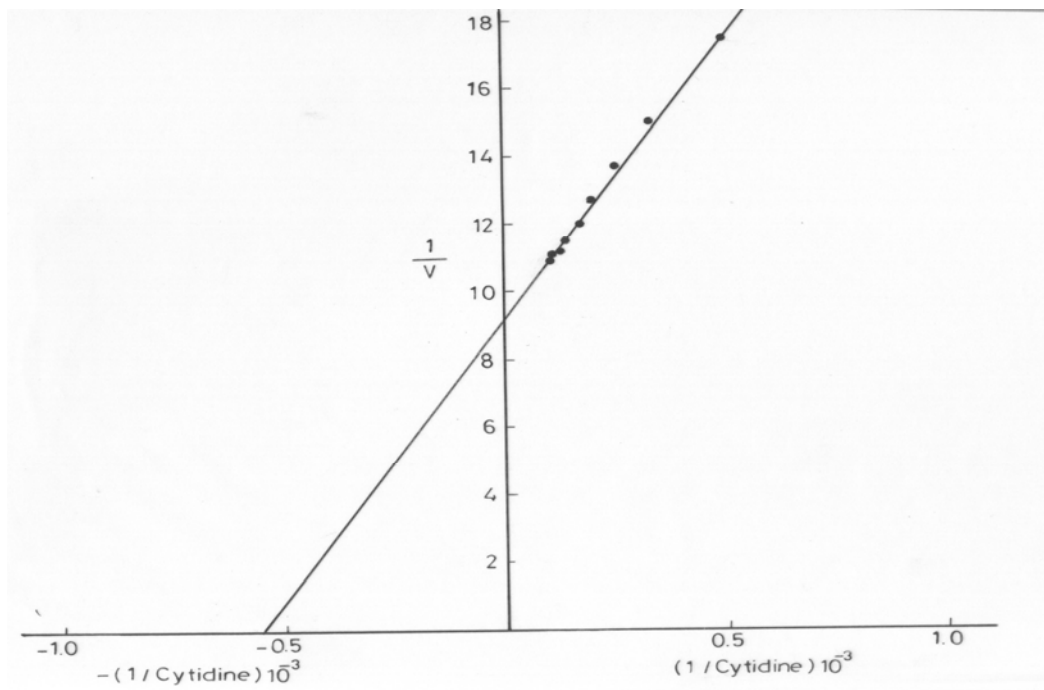
(300) μM Tris-HCl

(300)
(7.2) Tris-HCl
()
(6) (10)

(Km) -
 -
 (Lineweaver - Burk)
 (7) $(1.81 \times 10^{-3} \text{ M})$ (8)



L. terrestris



: 7

CDA

L. terrestris

(4)

L. terrestris

: 4

60	()
Tris-HCl	
300	
7.2	
8	()
15	
37	

CDA

CDA

(5)

(6)

: 5

%		/U	Units (U) [*]	³ /	
100	1	20.31	51.38	2.53	
90	1.4	27.74	46.06	1.66	
84	1.5	30.39	43.15	1.42	(%75)
73	1.9	38.53	37.76	0.98	
69	5.7	115.00	35.65	0.31	(G-200)

(Unit)

*

100)

(G-

()

(1)

(2 ×

200)

(95000)

CDA

(57000)

*E. coli**Giardia intestinalis*

(36)

.(12)

(260000)

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