

- 5<sup>1</sup>

( 2009 / 5 /4 2009 / 3 /19 )

- 5<sup>1</sup>

(5<sup>1</sup>- Nucleotidase, EC.3.1.3.5)

HCl -

40

(5<sup>1</sup>-AMP)

- 5<sup>1</sup>

11

7.5

° 37

50

( )

(0.32 ± 66.7)

30

- 5<sup>1</sup>

- 5<sup>1</sup>

:

## Activity and Properties of 5<sup>1</sup>- Nucleotidase in Human Amniotic Fluid

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### ABSTRACT

The present research includes a study of activity and properties of 5<sup>1</sup>- Nucleotidase (5<sup>1</sup>-NT, EC.3.1.3.5) was determined in human amniotic fluid using coloremtric method. Maximal activity of the enzyme was obtained in a reaction mixture containing 40 mM of Barbiturate-HCl buffer at pH 7.5 containing 11 mM of adenosine 5<sup>1</sup>- monophosphate (5<sup>1</sup>-AMP) as a substrate and 50 µl of amniotic fluid (Enzyme volume). The reaction mixture

was incubated at 37°C for 30min, under the optimum condition. The enzyme activity equal to (66.7±0.32) unit per liter in amniotic fluid.

**Keywords:** 5'-Nucleotidase, adenosine 5'-monophosphate, Human amniotic fluid.

(Carlson, Amniotic fluid (AF)

(Gardner and

1981)

Sunstad, 1984)

30

(Whitfield, 1995)

.(Gadd, 1977)

( )

(DNA turn-over) DNA

.(Adams, *et al.*, 1986)

- 5'

5' Nucleotidase

2008 )

.(Kavutcu and Melzing, 1999 ;

- 5'

- 5'

ATP

.(Kavutcu and Melzing, 1999)

( )

5'-NT

( )

Ecto-5'-Nucleotidase

(Bianchi and Spychala, 2003)

AMP

ATP

IMP

.(Hokari and Sakagishi, 1992)

..... - 5'

5'-NT

Zimmermann, 2008 2006 2000 )  
. (Reis, 1950 ; Galerne *et al.*, 1973 ; Klemens *et al.*, 1990 1992;  
5'-NT  
( )

Aminiotic fluid (AF) (10)

2008 (35 – 17)

AF

Trans vaginal

Sim's speculum AF

(Albal *et al.*, 1992; Escobar

Plane tube 3 5 . *et al.*, 1993)

10 3000

.5'-NT

- 5'

- 5'

(1981) Williams Wood

. 5'-AMP

. (5'-AMP)

- 5'

(0.22 ± 41.88)

(1981) Williams Wood

(Kavutcu and Melzing, 1999)

- 5'

(1973) Galerne

- 5'

- 5'

(1)

(70 - 20)

( )

50

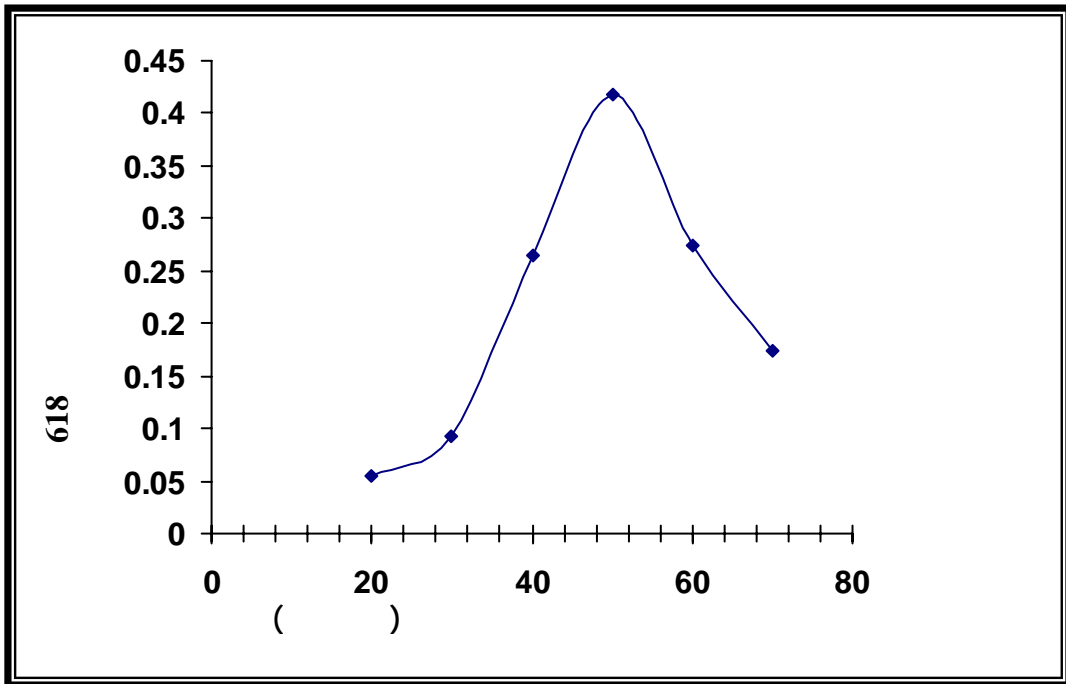
( )

( )

(2000)

(West et al., 1966)

- 5'



- 5'

: 1

29

..... - 5'

(50 - 0)

- 5'

( )

- 5'

(2)

30

2000 )

30

(1981 Wood and Williams,

° (50 - 10)

- 5'

(3)

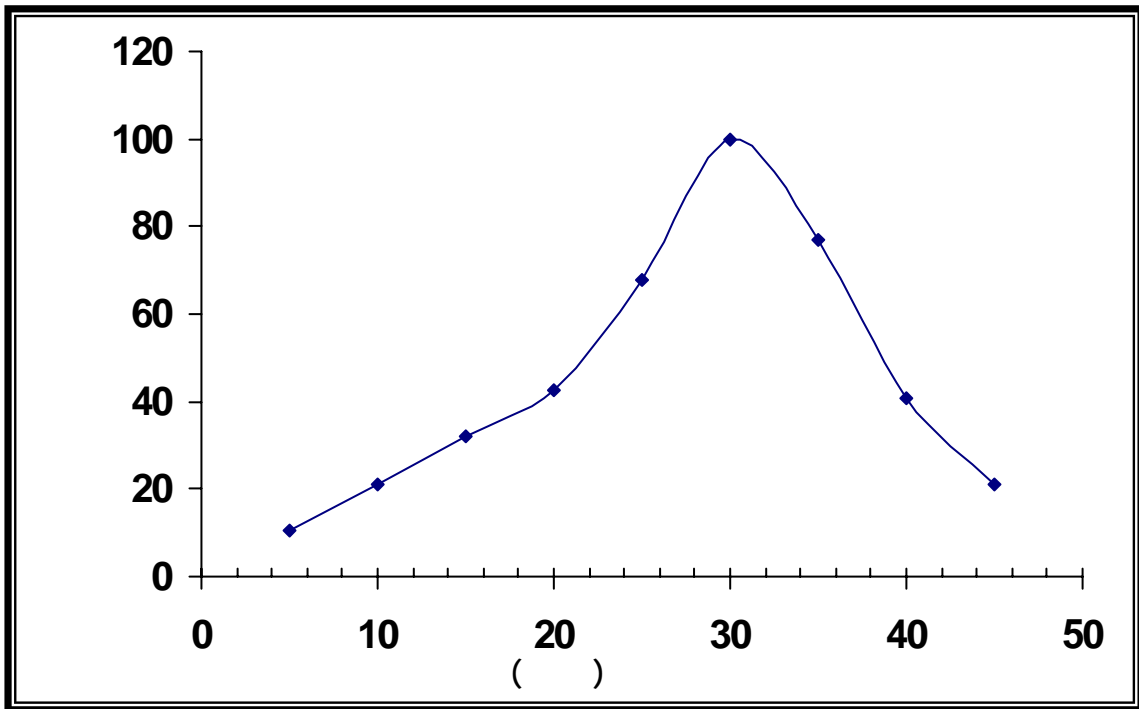
° 37

Denaturation

(2006)

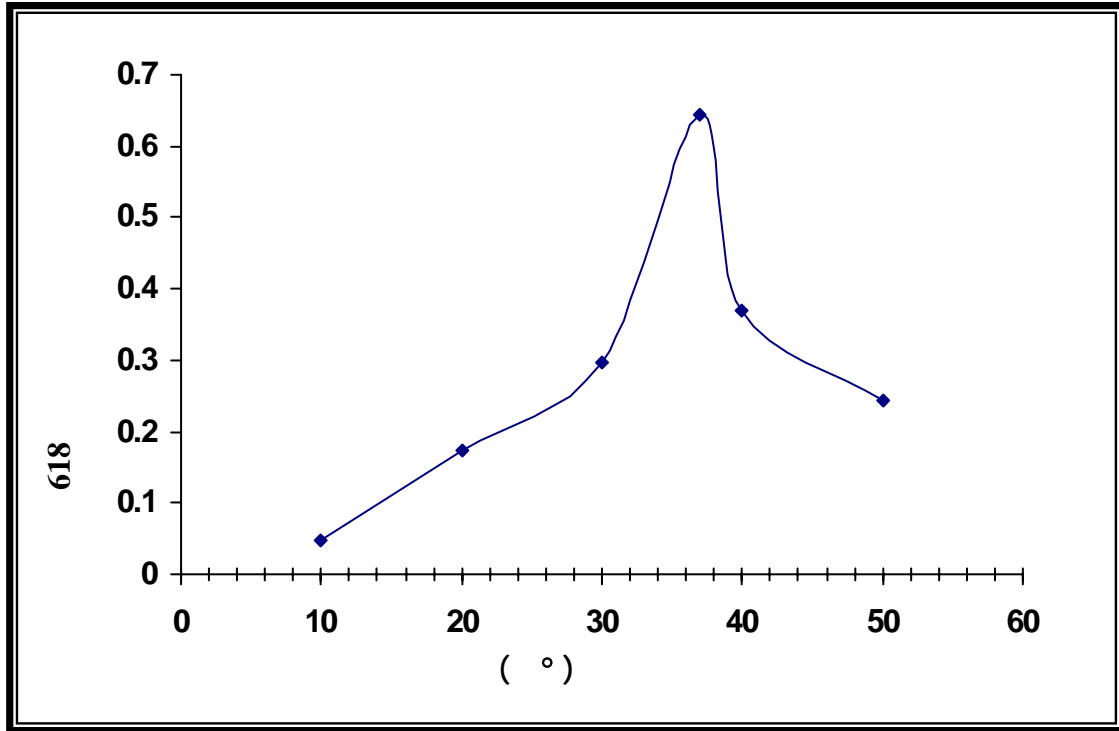
(1977)

° 37



- 5'

: 2



- 5<sup>1</sup> : 3

Barbiturate – HCl - 5<sup>1</sup>  
 (1) 7.5 (60 – 10)  
 40

- 5<sup>1</sup> Barbiturate – HCl : 1

% +	* ±	
48	0.63 ± 21.98	10
60	0.11 ± 27.44	20
72	0.31 ± 32.72	30
100	0.55 ± 45.71	40
58	0.42 ± 26.67	50
38	0.78 ± 17.41	60

10 : / : \*  
 . % 100 : +

31

.....

- 5

40

HCl

- 5

(4)

(pH)

)

. 7.5

(Wood and Williams, 1981 ; 2006

2000

40

. (Kaplan and Pesce, 1989) (7.9 - 7.2)

7.5

40

(5-AMP)

-5

7.5

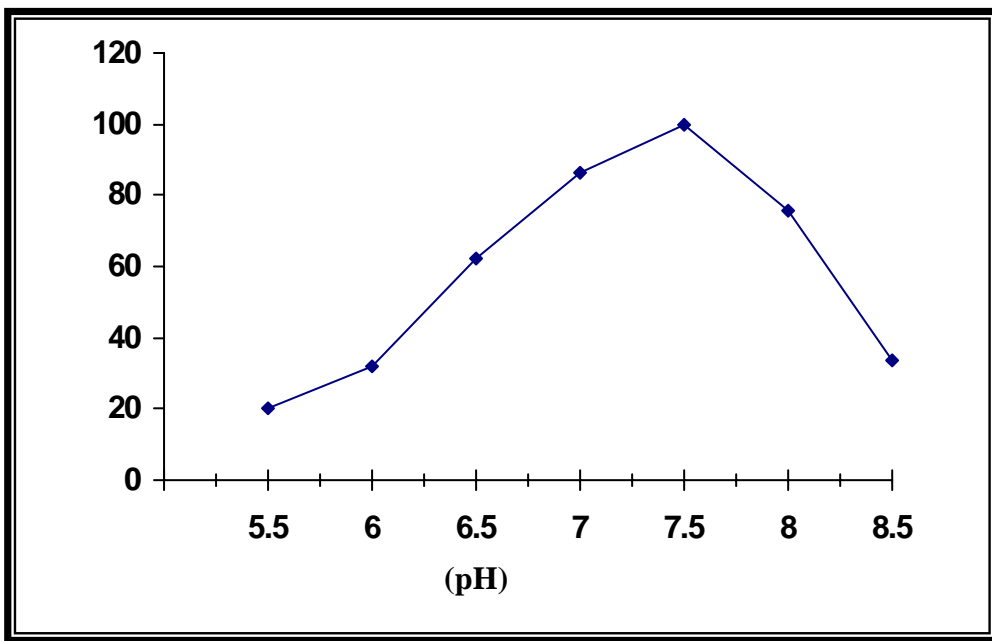
HCl -

(5-AMP)

(5)

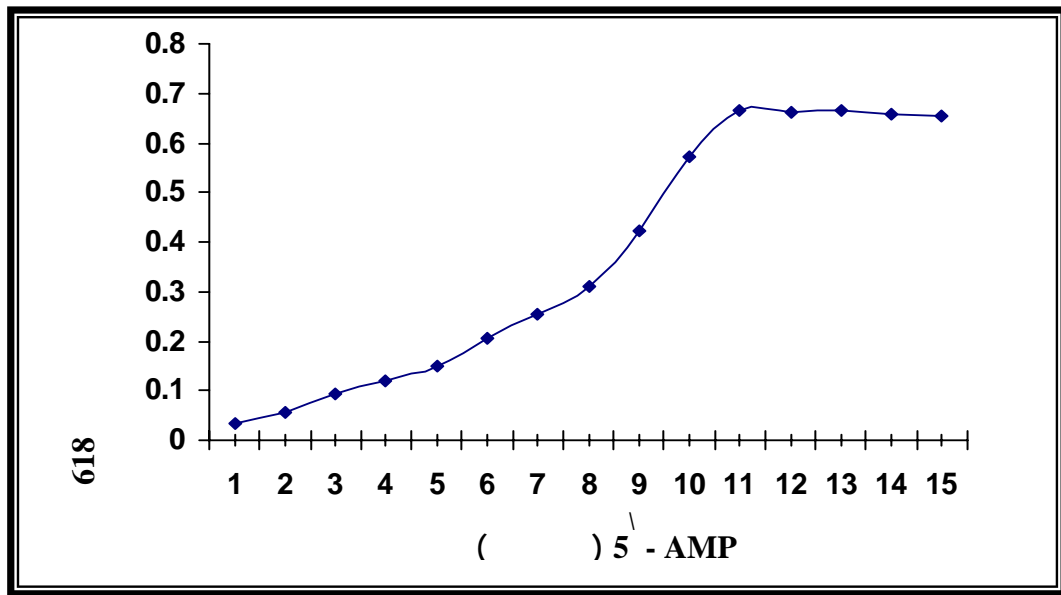
(15 - 1)

11



- 5

: 4



- 5<sup>l</sup> ( 5<sup>l</sup> - AMP) : 5

- 5<sup>l</sup>

(2)

(1977) Gadd

/ (0.32 ± 66.7)

30

- 5<sup>l</sup>

( )

- 5<sup>l</sup>

- 5<sup>l</sup>

: 2

50	( )
30	
° 37	
40	Barbiturate - HCl
7.5	
11	( ) (5 <sup>l</sup> -AMP)



.(1977)

5<sup>1</sup>-NT II I

.(2008)

. *Lumbricus terrestris* (Linnaeus, 1758). **228-215 30**

.(2008 )

- 5<sup>1</sup>. **36 - 26 19 2**- 5<sup>1</sup>

.(2006 )

- 5<sup>1</sup>

.( 2000 )

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