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2008 / 12 / 16

Abstract

The research was an attempt to isolate and study the active proteinous compounds from the cold aqueous extract of cynara scolymus L. leaf. Three compounds (I, II, III) were isolated using gel filtration chromatography of the precipitate produced by cold acetone precipitation. The comparative molecular weights of the three compounds were found to be (320007, 5560, 2607) Dalton respectively.

The effect of the aqueous extract and the proteinous fractions on glucose, cholesterol and total lipids in normal and alloxan-induced diabetic mice were investigated.

Glucose level was lowered by intraperitoneally administration of concentrated aqueous extract and high molecular weight proteinous compound (II) by (24.7% and 31.4%) respectively in normal mice and (12.4% and 28%) respectively in diabetic mice.

Furthermore, there was a significant reduction in the total lipids level by intraperitoneally administration of concentrated aqueous extract by (17.1% and 1.7%) in normal and diabetic mice respectively.

Also there was a significant reduction in the cholesterol and total lipids levels by intraperitoneally administration of low molecular weight proteinous compound (II) by (34.9% and 23%) respectively.

(III II I)

(Cynara scolymus L.)

...

(2607 5560 320007)

(II)

%24.7)

(%28 %12.4) (%31.4

(%1.7 %17.1)

(II)

(%23 %34.9)

A

(1)

cynarin

sesquiterpenous chlorogenic acid

pigments

⁽²⁾ascorbinase ⁽³⁾cynarase

(5 4) (3)

Inulase

(%90-70) %20

(diuretic)

C

(7 6)

carotenoids



(8)

(cynarase)

(2)

(9)

(*B. bacterioiovorus*)
(endotocin)

(9)

LDL

(12)

(11+10)

LDL

.HDL

(Male Albino Mice)

(standard kits)

:

(500)

(v:w 2:1)

(10)

(4000 xg)

(15)



...

:

/ (60:40)
 (4)
 . (24) (60)
 .(4) (6000 xg) (20)
 (13)

:

(Sephadex G-100) (120×2.5)
 (116)

:

⁽¹⁴⁾Andrews
 :

(5)
 100) ⁽¹⁵⁾ ⁽¹⁶⁾
 (/
 (1)
⁽¹⁷⁾ ⁽¹⁶⁾ (Normal saline)

:

_____ .1
 (standard kit)
⁽¹⁸⁾(syrbio, France)
 _____ .2
⁽¹⁹⁾

(students-T-test)

⁽²⁰⁾(p<0.05) (5%)

(1)

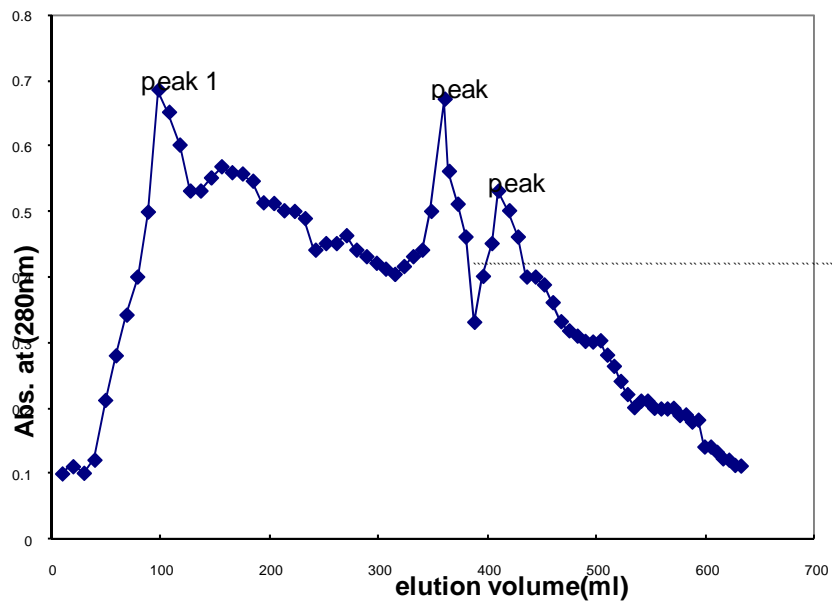
:1

(%)	()	(%)	()	()	()	(/)	
91.24	12631	2.76	13842.5	1750	500	7.91	

:

.(1)

.(2)



:(1)

(sephadex G-100)

(120×2.5)

...

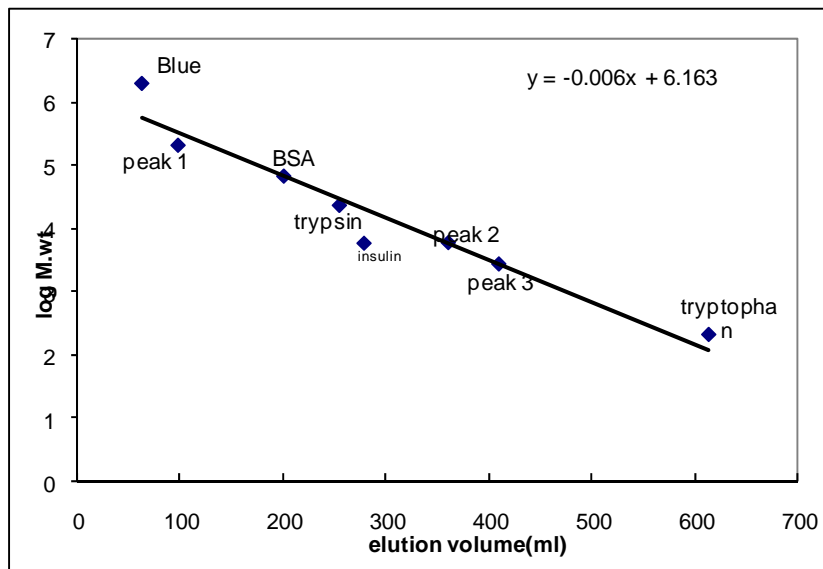
:2

(%)	()	()	(/)	
100	14.44	2	7.22	
30.26	4.37	48	0.091	I
21.25	3.06	47.8	0.064	II
49.31	7.12	97.5	0.073	III

II I)

(2)

(2607 5560 320007) (III)



:(2)

.(Sephadex G-100)

(120 × 2.5)

:

(3)

(%24.7)

(22)

(21)

(23)

(%12.8)

⁽²⁴⁾(β-Hydroxy Methyl Glutaryl-CoA Reductase)

(%17.1)

(AMP)

⁽²⁵⁾

(II)

(3)

(II)

(%31.4)

(26)

(II)

(3)

(%22.3)

(%36.6)

(I)

(III)

:3

(%)	(100/)	(%)	(/)	(%)	(/)	()	
-	389.13±2.2 d	-	2.43±3.11E-02 c	-	6.15±0.11 b	()	1
-17.1	322.5±3.11 b	-12.8	2.12±0.41 b	-24.7	4.63±3.25E-02 d		2
-13.1	338.1±3.23 dc	-15.6	2.05±2.53E-02 a	-12.5	5.38±2.76E-02 c	I	3
-22.3	302.32±4.18 a	-36.6	1.54±1.12E-02 d	-31.4	4.22±2.35E-02 a	II	4
+1.9	396.8±2.26 d	+3,7	2.52±0.15 ac	-5.0	5.84±1.43E-02 b	III	5

(±) *
(/5 =)

(p≤0.05)

...



(4)

(/ 100)

(27)

(6)

(/ 100)

(I)

.(4)

(%28)

(II)

(%23)

(%37.9)

.

100)

(%12 %17.7 %10.7)

(/

(II)

(28)

(29)

(%)	(100/)	(%)	(/)	(%)	(/)	()	
-	389.13±2.2 a	-	2.43±3.11E-02 c	-	6.15±0.11 b	()	1
12.1	436.1±4.7 b	36.6	3.32±0.31 a	17.7	7.24±3.78E-02 d	()	2
-1.8	428.4±3.6 ab	-3.3	3.21±6.08E-02 ba	-12.4	6.34±2.33E-02 c		3
-12.3	382.3±4.7 c	17.8	2.73±4.33E-02 e	-10.8	6.46±2.64E-02 e	(I)	4
-23	335.4±2.5 d	-34.9	2.16±4.58E-02 d	-28	5.22±7.12E-02 a	(II)	5
-5.6	411.8±3.9 be	-7.2	3.08±3.18E-02 ab	6.6	6.76±4.58E-02 dc	(III)	6

(±) *
(/5=)

(p≤0.05)

(1)

.1988

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(3)

.1988

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