

*Althea rosea*

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*Althea rosea*

*Klebsiella*

*Salmonella typhi*

**Activity of Aqueous and Alcoholic Extract for *Althea rosea* Flowers  
Against Many Gram Positive and Negative Bacteria**

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**ABSTRACT**

This research aim to study antibacterial activity of aqueous and alcoholic extract of *Althea rose* flowers which belong to *Malvaceae* family against some pathogenic bacteria. The results showed that aqueous in its wet state was more active than the dried aqueous

extract and the alcoholic extract were more active than aqueous extract, and it was found that there were differences in the sensitivity of studied bacteria towards that extract. *Salmonella typhi* and *Klebsiella* species were the most sensitive. Besides, it was shown the superiority of that extract activity upon some of those antibiotics according to the type of studied bacteria, which may indicate the capability of using this extract to control pathogens which are sensitive to it.

3000  
 (626-688)  
 (1998 1988 1981 )  
 (2004 1991 )  
 Malvaceae (*Althea rosa*)  
 (2001 1987 )  
 75  
 (1981 Bailey, 1977) (1 )  
 (1998 1988 )



*Althea rosa*

: 1

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-1

*Escherichia coli*, *Proteus mirabilis*, *Salmonella typhi*, *Streptococcus pyogenes*,  
*Pseudomonas aeruginosa*, *Klebsiella pneumonia* and *Klebsiella aerogenes*.

/ /

Cruckshank et al., 1975)

.(Benson, 2002 Finegold et al., 1978

*Althea rosea* -2

:(1987) /

Kingdom: *Plantae*  
Division: *Spermatophyta*  
Class: *Angios Permae*  
Subclass: *Dicotyledoneae*  
Order: *Malvales*  
Family: *Malvaceae*  
Species: *Althea Rosa*

: -3

: -

(1988) Riöse

3 160 40

60 (Blender)

24 4

Lyophilizer (Whatmam No.1)

( Edwardi )

40

3 200 24 50 Oven

: -

Verporrt (1988) Grand

40 (1982)

Blender (%95) 3 160

24

(Electrothermal) (Rotary vaccume evaporator)

...

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: -1

5

1

1

/ 200

10 C0 62

Dimethyl Sulfoxide (DMSO) 5

10

0.1

Bauer

( 6.5 )

(1966)

Nutrient Broth

4-5

18

37

0.1

/ 108

(3)

<sup>0</sup> 37

L

Nutrient agar

30

24

37

.(Garrod et al., 1981)

: -2

:

Amoxicillin (AX) 25

Trimethoprim/Sulfamethoxazole(SXT) 25

Ciprofloxacin(CIP) 5

Cefotaxime(CTX) 30

(BIOANALYSE LTD Ankara / TURKEY)

(1 )

.(1982 ;Finegold et al., 1978)

*Salmonella*                      *Klebsiella*  
*Proteus*   *E.coli*  
*Pseudomonas*   *Streptococcus*   *Staphylococcus*

(1988                      )

(2)

*Klebsiella sp.*                      *Staphylococcus*   *Pseudomonas*                      *E.coli*   *Proteus*   *Salmonella*

:1

+	±	<i>Staphylococcus aureus</i>
-	±	<i>Streptococcus pyogenes</i>
+	++	<i>Salmonella typhi</i>
+	++	<i>Klebsiella pneumoniae</i>
+	++	<i>Klebsiella aerogenes</i>
-	+	<i>E.coli</i>
-	±	<i>Pseudomonas aeruginosa</i>
-	+	<i>Proteus mirabilis</i>

10

++

7.5

±

-

10- 7.5

+



CTX

*Klebsiella*

*E. coli*

AX

(2004 2001 1990 )

: 3

( )				( )	
SXT.	AX.	CTX.	CIP.		
8 R	11 R	20 M	31 S	17	<i>Salmonella typhi</i>
12 M	14 R	15M	34 S	15	<i>Klebsiella pneumoniae</i>
11 M	9 R	12 R	40 S	14	<i>Klebsiella aerogenes</i>
20 S	8 R	30 S	17 M	12	<i>E. coli</i>
9 R	11 R	18M	21 S	12	<i>Proteus mirabilis</i>

Resistant : (R) Intermediate : (M) Sensitive : (S)

.2001

...

.1991

.1990

.1982

.1998

.2004

(Enteropathogenic *Escherichia coli* (EPEC))

.1981

.1998

.1988

.1987

Bailey, L.H., 1977. Manual of Cultivated Plants University of Revised New York, Printed in the United States of America. Go., Inc.

Bauer, A., Kirby, W.A., Sherris, J.S., and Turk, M., 1966. Antibiotic Susceptibility Testing by Standardized Single Disc Method. Am. J. Clin. Pathol., Vol. 45: pp.493- 496.

Benson, H.J., 2002. Microbiological Applications. Laboratory Manual in General Microbiology, 7th ed. Mc. Graw. Hill Companies, Boston

Cruckshank, R., Marmion, B. and Swan, R., 1975. Medical Microbiology, Longman Group Ltd., New York.

Collee, F., Marmion, B. and Simmons, A., 1996. Mackie and Ucarteny Practical Microbiology, 14th ed, Churchill Living Stone Inc., New York.

Finegold, S.M., Martin, W.J. and Scott, E.G., 1978. Bailey and Scott's Diagnostic Microbiology, 5th ed. The C.V. Mosby Company, St-Louis, Missouri.

Garrod, L.P., Lambert, H.P. and Grady, F.O., 1981. Antibiotic and Chemotherapy 5th. Ed. Churchill Living Stone, New York.

- Grand, A., Verpoort, R., Wondergem, P.A. and Poussety, J.L., 1988. Anti-Infections Phytotherapies of the Tree-Savannah (West-Africa), 11-Antimicrobial Activity of 33 species. *J. Ethnopharmac.*, Vol. 22: pp.25-31.
- Riose, J.L., Recio, M.C. and Villar, A., 1988. Screening Methods for Natural Products with Antimicrobial Activity: A Review of the Literature. *J. Ethnophacol.*, Vol. 23, pp.127-149.
- Verporrte, R., Tginastoi, A., Vandoorne, H. and Svendsen, A.B., 1982. Medicinal Plant of Surinam, 1-Antimicrobial Activity of Some Medicinal plants. *J. Ethanopharma col.*, Vol. 5, pp.221-226.