

Antimicrobial Activity Of Some New Hydrazino Triazine-Thione Derivative Compounds

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Abstract: The titled compound hydrazinotriazine thione derivative have been screened and their antimicrobial activity against different strain of bacteria.

Keywords: Hydrazinotriazine, triazine-2-yl Schiff bases, azitidinones, antibacterial activity

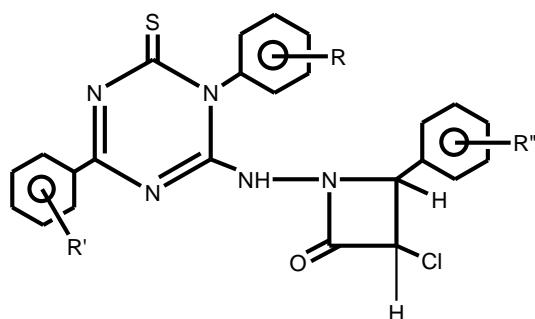
Introduction : S-triazine thione derivatives posses various biological activity¹⁻⁵. In order to obtained some new compounds 1-[(3-nitrophenyl)-4-(2-chlorophenyl)-6-thiono-1,6-dihydro-1,3,5-triazine-2-yl]-amino-3-chloro-4-(2-methoxy phenyl)-2-azitidinone and their other derivative were synthesize with a view to examine their antibacterial activity by disc diffusion method⁶ at 1000 PPM against 4- different species of aeromonas (A. hydrophilla, A. caviai, A. veronii, A. jandaei). The known antibiotics like Teramycine, Chloromphenical, Ampicilin were used for comparison. The compound containing the fluoro and 3,5 dinitro derivatives compound shows highest activity against aeromonas species.

Experimental : Standard whatman filter paper no-1 disc (4 mm) were impregnated with known amount of different compound (13) dissolve into chloroform. The chloroform was allowed to evaporated before used sterile Mueller hinton agar (MHA) was cooled to 45-50 °C, missed well and poured into petridisces, 20 ml being poured in each of 100 mm plates to give a depth of about 4 mm. Plates were dried into equal sectors. Overnight broth cultures of the test strains and control strain of E. Coli NCTC were diluted 1 : 1000 in PBS (PH 7.4) to a concentration of about 10^4 - 10^5 viable cells/ml. Aliquots of 0.01 ml. of the diluted cultures were spotted on the different sectors on the Agar Plates containing several delusions of the particular synthesized compounds. Inocula were allowed to dry and then the plates were incubated at 37°C overnight. All the test strains were also inoculated on a control plate containing no synthesized compounds.

The MIC of the various antimicrobial agents for Aeromonas Species tested is shown in table at 1000 ppm. The MIC values for 2, 5,8,11 and 13 shows a range bellow 40% but comp.13 shows at A.caviai 49% and 4,7,10 shows another range from 50 - 70% and 3,6,9,12 show the highest activity 72-90%.

Thus, we observed that the fluoro and 3, 5 - Dinitro derivatives compound shows highest activity against the Aeromonas Species.

MIC of Different Aeromonas Species to Individual Antimicrobial Agent At 1000 ppm.



Sl. No.	Antimicrobial Agent			Micro Organism (Bacteria)			
	R	R'	R''	A. <i>Hydropilla</i>	A. <i>Cavial</i>	A. <i>Veronii</i>	A. <i>Jandaei</i>
1.	Control			NIL	NIL	NIL	NIL
2. 1	3 - NO ₂	2 - Cl	OCH ₃	38	42	29	25
3.	3 - NO ₂	3, 5 - NO ₂	OCH ₃	82	90	88	88
4.	3 - NO ₂	4 - NO ₂	OCH ₃	58	61	61	63
5.	3 - NO ₂	4 - OCH ₃	OCH ₃	35	39	37	29
6.	3 - NO ₂	4 - F	OCH ₃	84	71	73	78
7.	3 - NO ₂	4 - Cl	OCH ₃	60	58	56	59
8.	4 - OCH ₃	2 - Cl	OCH ₃	23	22	29	41
9.	4 - OCH ₃	3, 5 - NO ₂	OCH ₃	72	76	80	72
10.	4 - OCH ₃	4 - NO ₂	OCH ₃	65	68	68	62
11.	4 - OCH ₃	4 - OCH ₃	OCH ₃	25	23	29	19
12.	4 - OCH ₃	4 - F	OCH ₃	85	85	77	79
13.	4 - OCH ₃	4 - Cl	OCH ₃	40	49	32	36

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References

1. P S Desai and K R Desai , *J. Indian Chem. Soc.* **77**, 153 (1994)
- 2- K Rolf, R H Jochem, L Stephan, V Katharina and K Kristian , *Chem Abs-* **131**, 243289 -R (1999)
3. V Khatri , V Sareen ,U Garg , Taneja P and Sharma K, *J. Indian Chem Soc.* **80**, 53 (2003)
4. R B Patel, P S Desai, K R Desai and K H Chikhalia , *J.Indian Chem Soc.* **80**, 138 (2003)
5. D. Tripathi , A R Mishra, *Indian J. Hetrocyclic Chemistry*, **16**, 239 (2007)
- 6a. A.L. Barry the antimicrobial susceptibility test, principle and practices, edited by Illus Lea and Febiger (Philadelphia Pa USA), 180, *Bio Abs*, **64**, 1997, 25183 (1976)
- 6b. A.W. Bauer, W.M.M. Kirby, J.C. Sherris, and M. Turck, : *Am. J. Chem. Pathol.*, **45**, 493 (1966). JC- 634/