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AV. JUAREZ No. 1049 OTE. LOCAL 15 C.P. 27000
TORREON, COAH. TEL. (871) 718-96-00

ANTIMICROBIAL TESTING

with

ALKA VITA (ALKAHYDROXY®)

on

ESCHERICHIA COLI

STAPHYLOCOCCUS AUREUS (MRSA)

PSEUDOMONA AERUGINOSA

ENTEROBACTER CLOACAE

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FINAL RESULTS OF ANTIBACTERIAL TESTS "IN VITRO" WITH THE PRODUCT ALKAHIDROXY® AS AN ANTIMOCROBIAL AGENT.

MARCH, 18 OF 2007.

PURPOSE AND OBJECTIVE:

SINCE THE USE OF CURRENT ANTIBIOTICS THAT NO LONGER RESPOND TO CONVENTIONAL TREATMENTS; NEW TECHNOLOGY HAS HAD TO DEVELOP NEW THERAPIES AND ANTIBACTERIAL SOLUTIONS THAT ARE SAFE AND EFFECTIVE FOR HUMANS

THE FOLLOWING TESTS FOR ALKAHIDROXY WERE DONE TO DETERMINE THE PROPER CONCENTRATION OF ALKAHYDROXY REQUIRED TO INHIBIT THE VARIOUS CULTURES OF BACTERIA.

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PURPOSE:

TO DETERMINE THE MOST EFFECTIVE PERCENTAGE OF ALKAHYDROXY® AS AN ANTIMICROBIAL AGENT TO INHIBIT THE GROWTH FROM THE MICROORGANISMS TO BE TESTED.

PROTOCOL:

I. - THE FIRST STEP WAS TO VERIFY THE AUTHENTICITY OF THE RESPECTIVE CULTURES USED.

II. **ESCHERICHIA COLI (ATCC 25922)**
STAPHYLOCOCCUS AUREUS (ATCC 25923)
KLEBSIELLA PNEUMONIAE (ATCC10031)
PSEUDOMONA AERUGINOSA (ATCC 27853)

II. – THE SECOND STEP WAS UTILIZING THE CULTURES SELECTED ON STEP ONE OF BACTERIAS THAT ARE RESISTANT TO MOST ANTIBIOTICS.

METHOD USED:

BROTH MUELLER - ADJUSTED HINTON TO A FINAL pH OF 7.3
STANDARD SPECTROPHOTOMETER OF Mc FARLAND 0.5%
USUAL MATERIAL IN MICROBIOLOGY

METHOD:

GLASS TUBES WERE USED WITH SECURED COVER WITH 4 ML OF BROTH MUELLER HINTON, TO A FINAL PH OF 7.3 TO WHICH 0.5 ML OF ALKAHYDROXY WERE ADDED IN VARIOUS DILUTIONS USING THE BASE ALKAHIDROXY AT A 100% CONCENTRATION TO EACH TUBE AND ADDING 1 ML OF I INOCULATE OF THE BACTERIA, ADJUSTED TO A CONCENTRATION OF 1.5 X 10 AT 8ª O'CLOCK BASED ON THE STANDARD OF MC FARLAND THE TUBES WERE INCUBATED TO A TEMPERATURE OF 35 C. FOR 18 HOURS.

READINGS WERE MADE TO A LONGITUDE OF WAVE OF 625 NM,
TO VERIFY THE BACTERIAL DEATH MAKING CULTIVATIONS OF THE TUBES USING PROPER PROTOCOLS FOR SUCH TEST.

THE READINGS TO 625 NM WERE USED FOR THE FOLLOWING CULTURES:

ESCHERICHIA COLI (ATCC 25922)

%CONCENTRATION: ALKAHIDROXY®	**10%**	**5%**	**2.5%**	**1.25%**	**0.62%**	**0.31%**	**0.15%**	
DILUTION:	1:1	1:2	1:4	1:8	1:16	1:32	1:64	CONTROL
SAMPLE 1	.008	.005	.001	.004	1.10	1.43	1.60	1.21
SAMPLE 2	.004	.007	.001	.006	1.19	1.55	1.72	1.38
SAMPLE 3	.001	.005	.002	.004	1.18	1.53	1.82	1.28
AVERAGE	**.004**	**.005**	**.001**	**.005**	1.15	1.50	1.71	1.29
% OF INHIBITION	**99.7%**	**99.6%**	**99.9%**	**99.6%**	12%	+	+	

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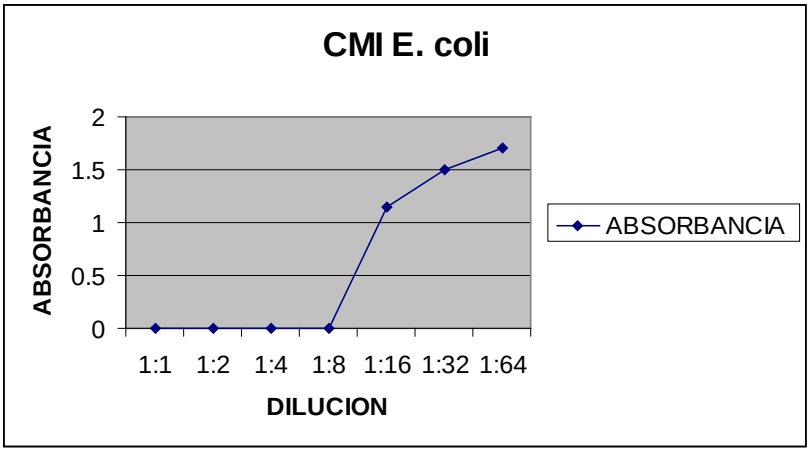

STAPHYLOCOCCUS AUREUS **(ATCC 25923)**

%CONCENTRATION: ALKAHIDROXY®	**10%**	**5%**	**2.5%**	**1.25%**	**0.62%**	**0.31%**	**0.15%**	
DILUTION	1:1	1:2	1:4	1:8	1:16	1:32	1:64	CONTROL
SAMPLE 1	.005	.003	.008	.014	0.412	0.954	1.12	1.15
SAMPLE 2	.003	.007	.009	.020	0.395	0.938	1.25	1.32
It SHOWS 3	.004	.012	.004	.019	0.443	0.929	1.32	1.28
AVERAGE	**0.004**	**0.007**	**0.007**	**0.017**	0.416	0.940	1.23	1.25
%OF INHIBITION	**99.7%**	**99.4%**	**99.4%**	**98.6%**	66.7%	24.8%	1.6%	

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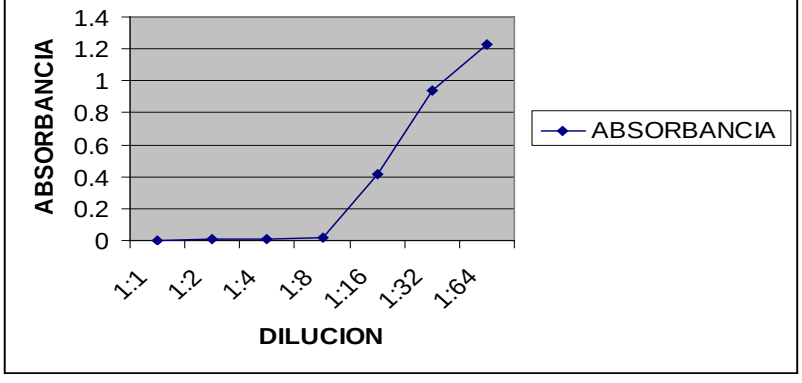

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THE READINGS TO 625 NM WERE THE FOLLOWING ONES:

To). - ESCHERICHIA RESISTANT COLI TO:

AMIKACINA (constr: 30 mcg), CEFOTAXIMA (constr: 30 mcg), CIPROFLOXACINA (constr: 5 mcg), CLORANFENICOL (constr: 30 mcg), GENTAMICINA (constr: 10 mcg), NETILMICINA (constr: 30 mcg), SULFAMETOXASOL-TRIMETROPIN (constr: 25 mcg), NITROFURANTOINA (constr: 300 mcg).

MINIMUM CONCENTRATION INHIBITORY (IMC) WITH ALKAHIDROXY

%CONCENTRATION: ALKAHIDROXY®	**10%**	**5%**	**2.5%**	**1.25%**	**0.62%**	**0.31%**	**0.15%**	
DILUTION	1:1	1:2	1:4	1:8	1:16	1:32	1:64	CONTROL
SAMPLE 1	.0012	.0021	.019	.143	.168	0.203	0.292	0.302
SAMPLE 2	.0018	.0019	.017	.152	.172	0.215	0.275	0.298
It SHOWS 3	.0010	.0010	.016	.138	.178	0.202	0.283	0.300
AVERAGE	.0010	.0016	.017	.144	.172	.206	.283	0.300
% OF INHIBITION	**99.7%**	**99.5%**	**94.3%**	52%	42.6%	31.3%	5.66%	

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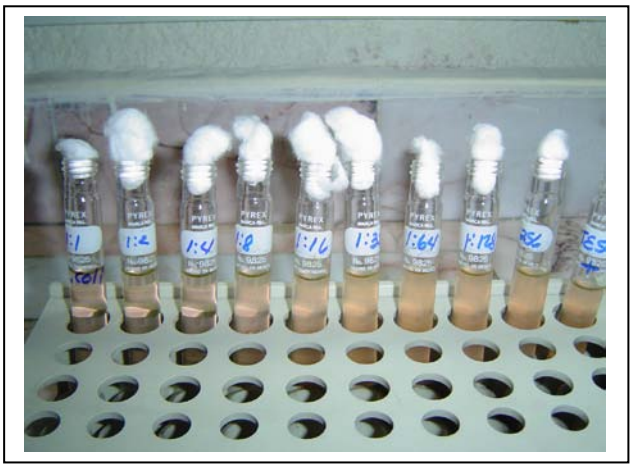
B). - **STAPHYLOCOCCUS AUREUS**, RESISTANT TO:
CEFALOTINA (constr: 30 mcg), CIPROFLOXACINA (constr: 5 mcg), DICLOXACILINA (constr: 1 mcg), ERITROMICINA (constr: 15 mcg), GENTAMICINA (constr: 10 mcg), PENICILLIN (constr: 10 or), VANCOMICINA (constr: 30 mcg), SULFAMETOXASOL-TRIMETROPIN (constr: 25 mcg).



MINIMUM CONCENTRATION INHIBITORY (IMC) WITH ALKAHIDROXY.

%CONCENTRATION: ALKAHIDROXY®	**10%**	**5%**	**2.5%**	**1.25%**	**0.62%**	**0.31%**	**0.15%**	
DILUTION	1:1	1:2	1:4	1:8	1:16	1:32	1:64	CONTROL
SAMPLE 1	.039	.034	.025	.124	.127	.133	.129	0.158
SAMPLE 2	.028	.030	.020	.132	.133	.135	.127	0.152
It SHOWS 3	.032	.027	.029	.128	.129	.130	.133	0.145
AVERAGE	.033	.030	.024	.128	.129	.132	.129	0.151
% OF INHIBITION	78.1%	80.1%	**84.1%**	15.2%	14.6%	12.6%	14.6%	

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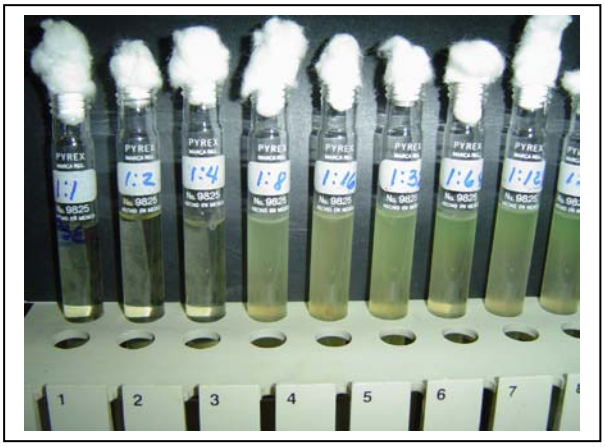
C). **- PSEUDOMONA AERUGINOSA** RESISTANT TO: CARBENICILINA (constr: 100mcg), CIPROFLOXACINA (constr: 5 mcg), CEFOTAXIMA (constr: 30 mcg), GENTAMICINA (constr: 10 mcg), AMIKACINA (constr: 30 mcg), NITROFURANTOINA (constr: 300 mcg), IMIPENEM (constr:), PIPERAZILINA-TAZOBACTAM (constr:).



MINIMUM CONCENTRATION INHIBITORY (IMC) WITH ALKAHIDROXY

%CONCENTRATION: ALKAHIDROXY®	10%	5%	2.5%	1.25%	0.62%	0.31%	0.15%	
DILUTION	1:1	1:2	1:4	1:8	1:16	1:32	1:64	CONTROL
SAMPLE 1	.012	.019	.048	.673	.557	.594	.658	0.560
SAMPLE 2	.008	.020	.042	.652	.562	.613	.712	0.584
SAMPLE 3	.015	.025	.038	.662	.584	.622	.722	0.572
AVERAGE	.011	.021	.042	.662	.567	.609	.697	0.572
% OF INHIBITION	**98.0%**	**96.3%**	**92.6%**	+	0.9%		+	+

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D). **- ENTEROBACTER CLOACAE** RESISTANT TO:
AMIKACINA (constr: 30 mcg), NETILMICINA (constr: 30 mcg), CEFOTAXIMA (constr: 30 mcg), CIPROFLOXACINA (constr: 5 mcg), CLORANFENICOL (constr: 30 mcg), GENTAMICINA (constr: 10 mcg), NETILMICINA (constr: 30 mcg), NITROFURANTOINA (constr: 300 mcg).

MINIMUM CONCENTRATION INHIBITORY (IMC) WITH ALKAHIDROXY

%CONCENTRATION: ALKAHIDROXY®	10%	5%	2.5%	1.25%	0.62%	0.31%	0.15%	
DILUTION	1:1	1:2	1:4	1:8	1:16	1:32	1:64	CONTROL
SAMPLE 1	.048	.042	.079	.152	.162	.210	.294	0.312
SAMPLE 2	.040	.038	.071	.162	.184	.232	.312	0.322
It SHOWS 3	.029	.037	.082	.159	.175	.222	.305	0.314
AVERAGE	.039	.039	.077	.157	.173	.221	.303	0.316
% OF INHIBITION	**87.6%**	**87.6%**	75.6%	50.3%	45.2%	30%	4.1%	

THE PREVIOUS TESTS WERE CARRIED OUT AT INTERLAB S.A. DE C.V. FACILITIES. LOCATED IN AV. JUÁREZ Nº 1049 OTE. OF TORREÓN COAHUILA'S CITY, MEXICO BY:

QFB. IRENE LOPEZ LOZOYA
Ced. Prof. Nº 408460

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