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With these search criteria we set out to evaluate the antibacterial activity and antifungal in vitro of the product Influvin produced by Erbenobili srl from (Corato - Bari) Italy. For the execution of the experimental part, the Company has provided us with a sample of the product Influvin, part of which is preserved in this laboratory. The experimental part was devoted to the determination of micro biostatic and microbicidal of the product on 7 gram-negative bacterial strains and gram-positive and 3 fungal strains belonging to the *Candida albicans* species .

The bacterial and fungal strains used are from the international collection and partly from clinical isolates recently performed at the Laboratory of Bacteriology and Mycology of Professor Maria Teresa Montagna (Faculty of Medicine, Department of Biomedical Sciences and Human Oncology). The results for the microorganisms tested were as follows:

(maximum dilution of the product proved to be effective)

Staphylococcus aureus ATCC 6538P,	1 : 64
Staphylococcus aureus Ig5,	1 : 16
Staphylococcus aureus 1g23,	1 : 16
Staphylococcus aureus, Ig22	1 : 32
Enterococcus faecalis 1g24,	1 : 32
Bacillus subtilis ATCC 6633,	1 : 32
Pseudomonas aeruginosa ATCC 27853,	1 : 8
Candida albicans ATCC 10231,	1 : 32
Candida albicans 17a18,	1 : 32
Candida albicans a18,	1 : 32

### Analytical methods

The product was assayed by serial dilution doubling (micro dilution) accordance with the procedures CLSI\* M27-A2 and CLSI\* M7 A6 and the dilutions were made in culture medium of Muller Hinton for bacteria species, or in RPMI for the mycetes, organisms were inoculated into microtiter plate and allowed to develop for 24h at 37°C in contact with the supplied product. The dilutions of the product submitted to the tests also include those 1:2 and 1:5, The latter are widely used as suggested by the manufacturer company. Particular attention was made for the presence of ethyl alcohol in the preparation (it is known as the alcohol alone is able to exert microbicidal action). We have subjected the alcohol to an assessment of antimicrobial activity that has highlighted its activities in dilutions of 'Inflavin evaluated in the test. The evaluation was performed by verification of the growth in comparison with a positive control in the absence of the product itself.

GCMS: It 'was also carried out an analysis on the product of gas mass noting on the dissolved organic: Terpene alcohols (7.2%), phenol (72.5%) and hydrocarbons (4,5%). The first two classes of components are widely reflected in the international literature for their antimicrobial action that is widely recognized.

### Results obtained

The activity of the product is significantly enhanced in both the antibacterial and antifungal, In fact, dilutions of the same product was diluted from 16 to 64 times, continued to exert a high antibacterial and antifungal activity. Our experiment also found a strong bactericidal and fungicidal activity in 1:2 to 1:5 dilutions and up to 1:64 demonstrating a marked propensity of 'Inflavin for the antimicrobial activity even in dilutions of the same that is very accentuated.

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\*Clinical and Laboratory Standards Institute (USA - 2012)

## Conclusive consideration

The analysis of data collected from research carried out on 'Influvin that is commercialized by the company Erbenobili srl of Corato (Bari) can draw the following considerations:

- a) the product has been shown to have antibacterial and antifungal capacity significantly exacerbated up to 1:64 dilution.
- b) The bactericidal and fungicidal activity unfolds optimally up until the 1:16 dilution.
- c) Excellent antimitotic activity versus *C. albicans*. An aspect that is not in relation to secondary pathology that this microorganism is capable of inducing at the oral cavity level.

In the final analysis of 'Influvin for the response observed in our vitro testing is to be considered a Herbal Supplement indicated for disinfectant and antiseptic diseases of the body and oral cavity .

23 marzo 2012 Prof. Agg.to

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