

In vitro activity of wine compounds (resveratrol, methyl gallate and other phenolic compounds) against *Helicobacter pylori* clinical isolates

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Objective:

The aim of this study was to determine the in vitro activity of different phenolic compounds against *H. pylori* clinical isolates by a disc diffusion method.

Results:

- The number of strains inhibited for the different compounds tested are shown in the table.
- Figure 1 showed the inhibition zone detected with compounds.
- Gallic acid, coumaric acid and ferulic acid did not inhibit the strains tested. Ethanol produced not inhibition in the strains tested.



Methods:

- 28 *H. pylori* clinical isolates were obtained from gastric biopsies from patients suffering of gastric symptomatology.
- Biopsies were processed following standard methodology for these bacteria.
- The *in vitro* activity of different phenolic compounds was studied by a disc diffusion method: Epicatechin, gallic acid, resveratrol, coumaric acid, ferulic acid, methyl gallate, catechin, quercetin, vanillic acid and kaempferol.
- Compounds were diluted in ethanol:water (10:90 v/v) at 25mM concentration. Ethanol was used in the same conditions than phenolic compounds to rule out its activity.
- Blank disc were impregnated with 10mcl of each compound and were put in agar Columbia plus 7% sheep blood inoculated with a suspension of a 2 McFarland *H. pylori*.
- Plates were incubated for 3 to 5 days at 37°C in a 10% CO₂ atmosphere. Inhibition zone around disc were measured.

	Num. Strains / total (%)	Number of strains			
		>30 mm	21-30 mm	11-20 mm	≤10 mm
Epicatechin	4/28 (14.3%)		1	1	2
Resveratrol	28/28 (100%)	6	21	1	
Methyl gallate	28/28 (100%)	4	10	14	
Catechin	7/28 (25%)			4	3
Quercetin	7/28 (25%)			2	5
Vanillic acid	1/28 (3.6%)				1
Kaempferol	10/24 (41.2%)		2	3	5

Conclusions:

Two of the phenolic compounds tested in this study (Resveratrol and methyl gallate) showed *in vitro* activity against all *Helicobacter pylori* clinical isolates tested by a disc diffusion method.