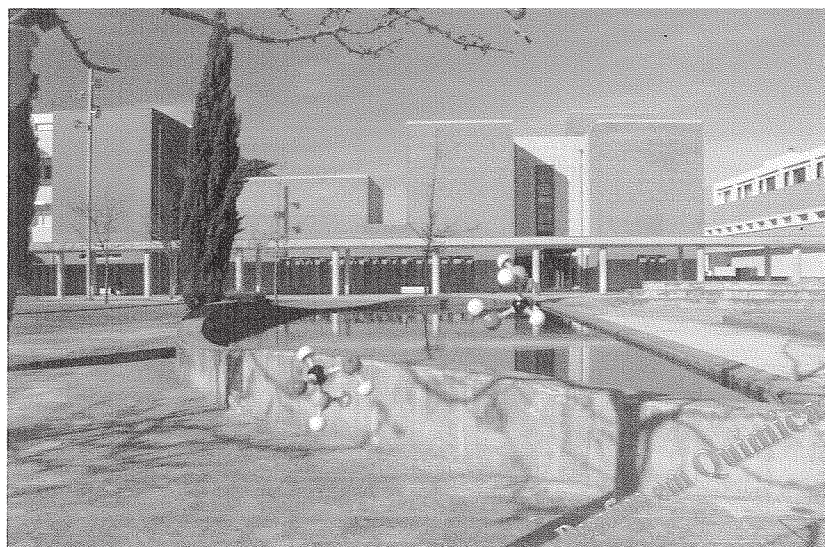


# XXIII Encontro Nacional da SPQ



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## Cytotoxic, antibacterial, antioxidant, and anticholinesterasic activity of *Juniperus brevifolia* extracts

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*Juniperus brevifolia* (Seub.) Antoine (Cupressaceae) is an endemic conifer of the Azores. The characteristics of these islands, particularly their isolation from the continental masses, resulted in a high number of endemisms which may be of importance in the search for new bioactive compounds. In this context, the cytotoxic, antibacterial, antioxidant and anticholinesterasic (anti-AChE) activities of the methanol and acetone extracts of *J. brevifolia* wood and bark were determined.

In the brine-shrimp assay,<sup>[1]</sup> the LC<sub>50</sub> values of bark methanolic and acetone extracts were found to be 2.03 mg/mL and 2.12 mg/mL, respectively.

Antibacterial activity of plant extract (200 µg/discs) was determined by the disc diffusion method.<sup>[2]</sup> The bark acetone extract showed activity against *Bacillus cereus*, *B. subtilis* and *Micrococcus luteus*, while the wood acetone extract showed activity only against *B. cereus*. No activity was observed against Gram (-) bacteria, *Escherichia coli* and *Enterobacter cloacae*.

The antioxidant activity of *J. brevifolia* extracts was assessed by the DPPH assay.<sup>[3]</sup> The acetone extracts of bark and wood showed good results when compared to quercetin (EC<sub>50</sub> = 7.0, 15.0 and 3.24 µg/mL, respectively). The methanolic extracts showed lower activity (EC<sub>50</sub> = 33.0 and 49.6 µg/mL for bark and wood, respectively).

Inhibition of AChE activity was also determined.<sup>[4]</sup> The methanolic and acetone extracts from bark and wood of *J. brevifolia* presented IC<sub>50</sub> values between 0.193 and 0.825 mg/mL.

The present study demonstrates that bark extracts of *J. brevifolia* are the most active and showed good antioxidant activity, lower anti-AChE activity except for the acetone extract, poor cytotoxicity and antibacterial activity and absence of activity for Gram (-) bacteria.

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