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EX AEDIBVS ACADEMICIS IN CIVITATE VATICANA

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PRODUCTION OF L-ASPARAGINASE BY A STRAIN OF *ASPERGILLUS TERREUS*

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SVMMARIVM — Nunc primum describitur asparaginasis ab *Aspergillo terreo* producta, quae maximam ostendit vim contra tumores in muris lymphosarcomate.

It is well established that L-asparaginase (L-asparagine-amidohydrolase EC 3.5.1.1.) is the responsible of the antitumoral activity of the guinea pig serum [1].

The same effect was shown by asparaginase isolated from *Escherichia coli* [2] while the enzymes isolated from some other bacteria [2] [3] or yeasts [3] have no tumour inhibitory activity.

We have now found, at the Istituto Superiore di Sanità (*) a strain of *Aspergillus terreus* which produces a L-asparaginase showing antitumoral activity.

The strain was cultivated in submerged culture in a nutrient broth (Peptone 5%, Beef extract 1%, Mannite 5%, distilled water, pH 7) for 48 hours at 24°C. The cells were harvested by filtration, washed with distilled water and rup-

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tered with a X press (AB BIOX - Nacka, Sweden). The enzyme was extracted with 0.02 M phosphate buffer pH 8 according to the procedure described by Roberts et al. [3]. A partially purified extract was obtained after passing the crude preparation through a column of Sephadex gel G-50. This extract has an activity of 1500 Units /gr/ dry weight.

L-asparaginase assays were performed as described by Broome [4], and protein by the Folin method [5].

This enzime showed a strong inhibitory effect of ascites Walker carcinosarcoma 256 in the rat and a low toxicity.

This is the first time that a L-asparaginase with antitumor activity is reported in molds.

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