

Microbiological and Chemical Transformations of Argentatin B

Galal T. Maatooq

Department of Pharmacognosy, Faculty of Pharmacy, University of Mansoura,
Mansoura 35516, Egypt. E-mail: galaltm@yahoo.com

Z. Naturforsch. **58c**, 249–255 (2003); received October 31/November 14, 2002

Argentatin B is a naturally occurring tetracyclic triterpene isolated from *Parthenium argentatum* x *P. tomentosum*. It was microbiologically transformed to 16, 24-epoxycycloartan-3 α , 25-diol, (isoargentatin D), by *Nocardia corallina* var. *taoka* ATCC 31338, *Mycobacterium species* NRRL B3683 and *Septomyxa affinis* ATCC 6737. The later microbe also produced 16, 24-epoxycycloartan-3 β , 25-diol (argentatin D) and 1, 2-didehydroargentatin B, (isoargentatin D). Sodium hydroxide converted argentatin B to argentatin D and isoargentatin D. Hydrochloric acid treatment gave cycloartan-25-ol-3, 24-dione. Cerium sulfate/sulfuric acid/aqueous methanol induced scission of the isopropanol moiety and provided an isomeric mixture of 24-methoxy-25–27-trinorargentatin B. Oxidation of this isomeric mixture with pyridinium chlorochromate, selectively, attacked the isomer with the equatorial proton at position-24 to give the corresponding lactone, 24-oxo-25–27-trinorargentatin B. The produced compounds were characterized by spectroscopic methods.

Key words: Argentatin B, Biotransformation, Cerium Sulfate