

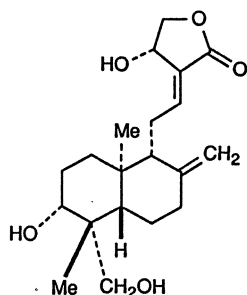
14.1 Introduction

Chuanxinlian, Herba Andrographitis, is the dry aerial part of *Andrographis paniculata* (Burm. f.) Nees (Acanthaceae) collected in early fall when the stems and leaves are growing exuberantly. This official herbal medicine is used as an antiinflammatory and antipyretic drug for treatment of cold, fever, laryngitis, and diarrhea.

Chuanxinlian Pian, Tabellae Andrographitis, is the tablet produced from the extract of *A. paniculata* and used for the same indications as the whole plant.

14.2 Chemical Constituents

The main constituent of *A. paniculata* is the diterpene lactone andrographolide. The bitter principle, a colorless, neutral crystalline substance, was first isolated by Boorsma from different parts of *A. paniculata* and named andrographide. Gorter proved that it is structurally a lactone and changed its name to andrographolide (14-1) [1]. Since then, this bitter principle has been the subject of a number of chemical investigations. More than 50 years later the exact structure of andrographolide was confirmed by spectral and chemical studies [2, 3]. It is a diterpene containing a γ -lactone ring connected to a decalin ring system via an unsaturated C_2 moiety. The crystal structure of andrographolide was determined by Smith et al. [4] and Fujita et al. [5].



Andrographolide (14-1)

Andrographolide can be isolated from the aerial part of the plant by extraction with alcohol or with alkaline solutions. Hydrolysis of andrographolide under cleavage of the lactone ring yields salts of andrographolic acid (14-2) which can be reconverted into andrographolide by acidification.