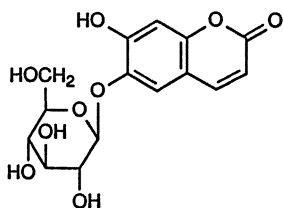


68.1 Introduction

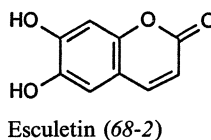
Qinpi, Cortex Fraxini, is the dry barks from stem or branches of the following *Fraxinus* species: *F. rhynchophylla* Hance, *F. chinensis* Roxb., *F. chinensis* Roxb. var. *acuminata* Lingelsh., or *F. stylosa* Lingelsh. (Oleaceae) collected in spring and the fall. It is officially listed in the Chinese Pharmacopoeia and is used in traditional Chinese medicine as an astringent for the treatment of diarrhea and as an antiphlogistic in ophthalmology for the treatment of conjunctivitis.

68.2 Chemical Constituents

The first report about coumarin components in *Fraxinus* bark as a traditional Chinese medicine was given in 1962. Esculin (68-1) and esculetin (68-2) were isolated as active principles against dysentery from *F. rhynchophylla* [1].



Esculetin (68-1)



Esculetin (68-2)

Esculetin is a coumarin glucoside isolated initially from the bark of *Aesculus hippocastanum* (Hippocastanaceae) and was structurally determined in 1930 by Head and Robertson [2]. The aglycone esculetin was first obtained by hydrolysis of esculetin and structurally investigated more than 100 years ago [3, 4]. Recently, the X-ray crystallographic analysis of esculetin demonstrated that the molecules of esculetin are nearly planar [5]. The esculetin and esculetin content in the bark of *F. rhynchophylla* was 3.4% [6] and was highest at the flowering stage [7]. From the bark of *F. chinensis*, two further compounds, syringin (1-8) and fraxin (68-3) were detected together with esculetin and esculetin [8]. Fraxin is another coumarin glycoside isolated first from *F. excelsior* [9]. The bark of *F. stylosa* contains a new coumarin glycoside named stylosin, in addition to the known components esculetin, esculetin, fraxin, and syringin. The structure of stylosin was determined by spectral analysis as 6-methoxy-7-hydroxy-8-rhamnosyl-rhamnosyl-glucosyloxycoumarin [10].