

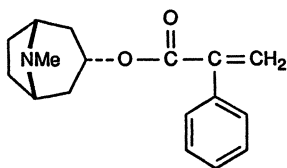
18.1 Introduction

Anisodus tanguticus (Max.) Pasch. (*Scopolia tangutica* Maxim.) (Solanaceae) is a medicinal plant growing in the Qinghai province of China and used in folk medicine as a spasmolytic and antiasthmatic agent.

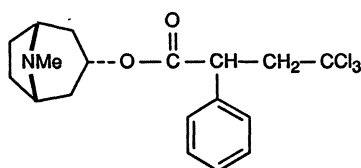
The active component of the plant, anisodamine hydrobromide, and a form for injection are listed officially in the Chinese Pharmacopoeia Vol. II. They are used as anticholinergic agents in the treatment of gastrointestinal spasms and acute micro-circulatory disorders, and as antidotes against poisoning with organic phosphorus compounds.

18.2 Chemical Constituents

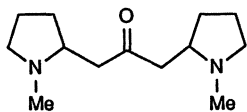
From *A. tanguticus* the tropane alkaloids anisodamine [1], anisodine [2], hyoscyamine, scopolamine, tropine [3], apoatropine (18-1) [3, 4], 3 α -(4,4,4-trichloro-2-phenylbutyryloxy)tropane (18-2) [4] and the nontropane alkaloid cuscohygrine (18-3) [3] were isolated and identified.



Apoatropine (18-1)



3 α -(4,4,4-Trichloro-2-phenylbutyryloxy)-tropane (18-2)



Cuscohygrine (18-3)

Anisodamine (18-4) and anisodine (18-5) are two new alkaloids first isolated from *A. tanguticus*. The structure and absolute configuration of anisodamine were determined on the basis of spectral data and by chemical correlation [1].

Anisodamine hydrobromide has two different melting points (159°–163°C and 176°–178°C) representing two crystal forms with different IR spectra which are