

Isolation of new disulphides from *Ferula foetida* roots

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Background and Aims: *Ferula foetida* is a perennial plant of Apiaceae which is one of the Asafetida oleo-gum-resin bearing genera. This species is native to East, Iran and is scattered in the warm, dry and mountainous areas. Asafetida has been used as spice and herbal remedy for centuries. *Ferula* species contain various compounds like sesquiterpene coumarins and sulfur-containing compounds which the latter play an important role in the odor and taste of asafetida plants. The compounds have shown antioxidant, antigenotoxic and hypoglycemic effects and bear beneficial effects on cholesterol level and platelet aggregation.

Methods: Roots of *Ferula foetida* were extracted with acetone and the concentrated extract was fractionated by vacuum liquid chromatography on silica gel. The fractions were purified with HPLC to render pure sulphides. The structures were elucidated with 2NMR and mass spectra.

Results & Conclusions: Several new sulphides along with known disulphides like methoxylatifolone were purified and structures elucidated. Since sulphides have biological active functional groups, a plant rich in sulphides can be used as a source of pharmacologically active phytochemicals.

Keywords: Disulphide; Methoxylatifolone; *Ferula asafetida*; 2D NMR