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New applications of reversed phase chromatography for detection and quantitation of certain adulterants in illegal herbal medicines

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A reversed phase HPLC method with UV detection has been developed and subsequently validated for the determination of some adulterants in illegal herbal medicines. Five herbal medicines for weight loss and other one for erectile dysfunction were tested for the presence of possible adulterants. The weight loss products were found adulterated with the already withdrawn drug Sibutramine and with Phenolphthalein that is proved to cause tumors. On the other hand, Sildenafil, a contraindicated drug for patients with heart diseases, was found in the herbal products for erectile dysfunctions. The methods use Inertsil C18 column (250x4.6 mm, 5 μ) and a flow rate of 1 mL/min. The mobile phase for quantitation of Sibutramine and Phenolphthalein was consisting of acetonitrile-potassium hydrogen phosphate buffer pH=3 adjusted by o-phosphoric acid (40/60 v/v) and detection at 223 nm. While the mobile phase for Sildenafil was acetonitrile-potassium hydrogen phosphate buffer pH=3.2 adjusted by o-phosphoric acid (50/50 v/v) and detection at 230 nm. The confirmation of the presence of the adulterants was done using LC-PDA and MASS spectrometry. For this, a complete investigation of any herbal medicine should be done through orthogonal analysis methods before use even if it is labeled with (100% herbal content).

Biography

Ahmed Mohamed Ali Hemdan has completed his PhD from Ain Shams University. He has published more 10 papers in reputed journals.

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