

## Development and validation of a HPLC-UV method for the quantification of charantin in *Momordica charantia* products

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*Momordica charantia* L., also known as bitter melon, is widely cultivated as a vegetable crop in tropical and subtropical countries. It has been used in traditional medicine for various actions. Among them, the most studied is the hypoglycemic activity, attributed to different chemical compounds, like some triterpene glycosides and charantin. This work is part of a project which aims the comparison of chemical components of the greenhouse-grown plants in Romania and imported vegetable products (India). We measured the charantin content of 8 samples obtained from 3 different Romanian producers (fruits and leaves) and an import drug. In addition, we analyzed 2 tea products and 4 food supplements containing bitter melon extracts. A HPLC-UV method was developed and validated for the determination of charantin content. We found that greenhouse-grown plants of Romanian origin have similar charantin content (0.39-0.64 mg/g) to those from India ( $0.58 \pm 0.01$  mg/g). In food supplements, the charantin content was in expected range, except one product which had lower content ( $0.131 \pm 0.008$  mg/g) and in case of one of the teas, where the charantin content was below the LOD. The organoleptic analysis of this tea shown to contain only traces of bitter melon, and probably contains black tea. This assumption has been confirmed by TLC analysis. This proposed method is suitable and practical for comparison of the charantin content of herbal products of different origin and could be of use for analysis of charantin in food supplements.

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### References

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