

Chromatography

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New method of screening allergenic components from Yejuhua injection with LAD2/CMC model online UHPLC-ESI-IT-TOF-MS system

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Yejuhua (YJH) injection is a traditional Chinese medicine (TCM) extracted from the single herb Yejuhua (*Chrysanthemi Indici Flos*, dry anthotaxy of *Chrysanthemum indicum* L.), which is widely used for the treatment of acute tonsillitis, upper respiratory tract infection, and throat ache in clinical practice. Linarin, a flavonoid glucoside reported to be one of the major active components of YJH injection, can cause inhibition of aldose reductase, phosphodiesterase and platelet aggregation. ADRs caused by YJH injection, majorly manifested as allergic reactions. Non-IgE mediated drug hypersensitivities, also referred to as pseudoallergic or anaphylactoid reactions have clinical manifestations that are often indistinguishable from allergic reactions. Effective and practical method for allergen screening and identification in YJH injection is in need. Cell membrane chromatography (CMC), developed by him and his colleague in 1996, is a new type of biological affinity chromatography and has been confirmed as an effective method to screen bioactive components from complex systems. In the present study, an LAD2/CMC-UHPLC-ESI-MS/MS method was established for screening, analyzing, and identifying the allergenic components from YJH injection. A retained fraction on the LAD2/CMC column was got, and identified as linarin. In order to verify whether linarin could induce LAD2 cells degranulation, histamine (HA) release assay was performed by the method of HPLC-ESI-MS/MS we established before. Results showed that linarin had an allergic effect by increasing histamine release in a dose-dependent manner from 10 to 100 μ M. In conclusion, the LAD2/CMC-UHPLC-ESI-MS/MS system developed in this study can be used to screen allergenic components in other TCM injections.

Biography

Yanni Lv is pursuing her PhD in School of Pharmacy at Xi'an Jiaotong University. She is pursuing her Doctor's Degree in Pharmaceutical Analysis and supervised by Professor Langchong He. She has completed her college studies from Xi'an Jiaotong University, a key university which is directly administered by the Chinese Education Ministry and is one of the oldest current institutions of higher education in China.

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