

SH-SY5Y/CMC, A NEW SCREENING METHOD OF ANTIPSYCHOTIC CHINESE HERBAL ACTIVE INGREDIENTS

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We describe an analytical method of SH-SY5Y cell membrane chromatography (SH-SY5Y/CMC) for recognition, separation and identification of active components from traditional Chinese medicines (TCMs). SH-SY5Y cells by means of culture with SH-SY5Y cell lines were used for preparation of the stationary phase in the CMC model. Retention components by the SH-SY5Y/CMC model were collected and active components then analyzed by SH-SY5Y/CMC under the optimized conditions. After investigating the suitability and reliability of the SH-SY5Y /CMC method using risperidone, sertraline and clozapine as standard compounds, this method was applied in screening active components from the extracts of TCMs such as Radix Gentianae, Radix Bupleuri, stir-baked semen ziziphi spinosae, rehmannia dride rhizome, uncaria rhynchophylla. Retention components from the extracts in the SH-SY5Y/CMC model were gentiopicrin and rosmarinci acid identified by the GC/MS method. In vitro pharmacological trials indicated that gentiopicrin and rosmarinci acid could concentration dependently protect the SH-SY5Y pre-treated by H₂O₂ (P < 0.05). The SH-SY5Y/CMC method is an effective screening system that can rapidly detect target components from a complex sample for antipsychotic candidate drug.