Supplementary Information

Screening and evaluation of anti-SARS-CoV-2 components from *Ephedra sinica* by ACE2/CMC-HPLC-IT-TOF-MS approach

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Methods

Preparation of ACE2/CMC column

The ACE2/CMC column was prepared by the method in our previous study. Briefly, the $ACE2^{h}$ cell line (1×10^{7} cells) being in exponential phase were collected and washed three times with physiological saline (pH 7.4) by centrifugation at 1000 g, 4 ℃ for 5 min, and then ruptured with Tris-HCl (pH 7.4, 50 mmol/L) by an ultrasonic procedure for 30 min in an ice-bath. After that, the suspension was separated by centrifugation at 1000 g, 4 ℃ for 10 min. Only the supernatant was collected and subsequently centrifuged at 12,000 g, 4 ℃ for 20 minutes to obtain the precipitation which was then washed twice with physiological saline. Ultimately, the ACE2 cell membrane saline suspension (5 mL) was slowly added to silica (50 mg, activated at 105 °C for 30 min) under vacuum condition with continuous vortex in an ice-bath, followed by stirring with a magnetic stirrer and standing overnight at 4 ℃ to produce the ACE2 cell membrane stationary phase which was finally packed into a standard CMC column (10 mm × 2.0 mm I.D.) on a column-loading machine according to a wet packing method.

Fig. S1

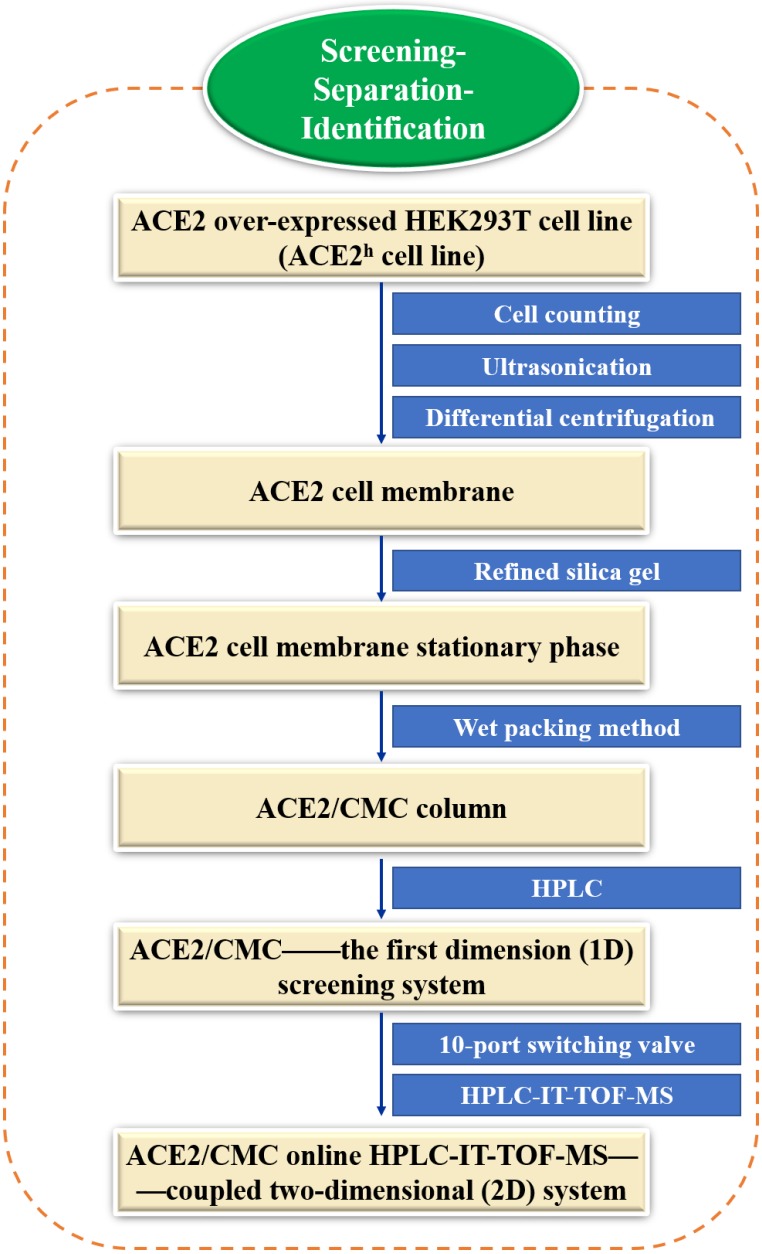

Fig. S1 Diagram of ACE2/CMC bioaffinity chromatography model and ACE2-HPLC-IT-TOF-MS system

Fig. S2

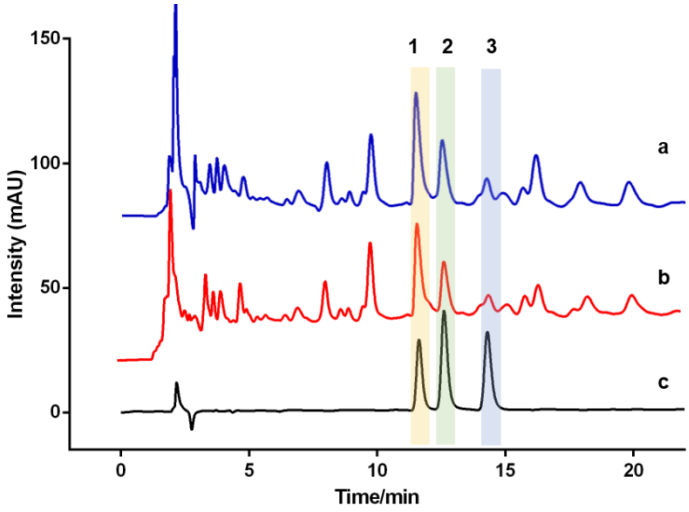

Fig. S2 High-performance liquid chromatography (HPLC) chromatograms (both at 254 nm) of methanol extract (a) and aqueous phosphate extract (b) of *Ephedra sinica*, and its active compounds (c). 1, EP; 2, PEP; 3, MEP