Electronic Supplementary Material (ESI) for Analytical Methods.


# Supporting Information

**Fig. S1.** Optimization of ICA strip. (a) Optimization of the amount of labeling mAb by NaCl aggregation method (b) mAb and coating antigen optimization; (c) Optimization of surfactants.

**Fig. S2.** Identification of negative sample by LC-MS/MS. (a) The detection results of CAN standard solution. (b) The detection results of OLM standard solution. (c) The detection results of IRB standard solution. (d) The detection results of negative herbal beverage sample.

**Table S1.** Reagents and their sources used for preparing immunogens and coating antigens, animal and cell experiments.

**Table S2.** Materials and their sources related to the preparation of ICA strips and other experiments.

**Table S3.** Cross-reaction results of the mAb 4G7.

**Table S4.** The results of stability for the ICA strip.

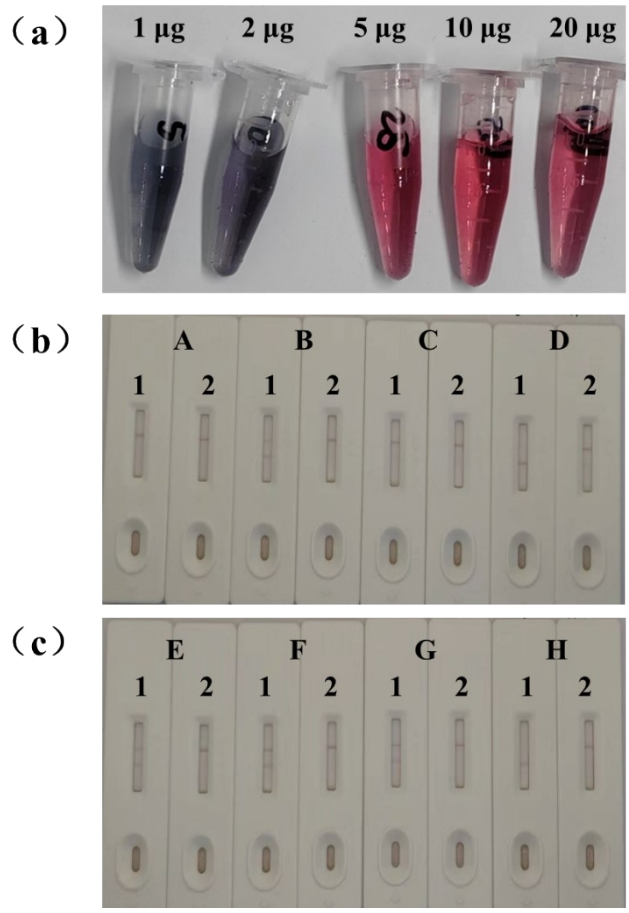



**Fig. S1.** Optimization of ICA strip. (a) Optimization of the amount of labeling mAb by NaCl aggregation method, the amounts above the 1.5mL tubes corresponding to their respective adding amount of labeling mAb in a 10% NaCl solution, 1μg means 1μg of labeling mAb was added and so on. (b) Optimization of antigen concentration and antibody labeling amount, A and B with 0.2 μg/mL of antigen concentration, C and D with 0.8 μg/mL of antigen concentration, A and C with 5 μg of antibody labeling amount, B and D with 10 μg of antibody labeling amount; (b) Optimization of surfactants, E for 5 % PVP, F for 5% BSA, G for 5% Tween-20, H for 5% glucan, and 1 and 2 in (a) and (c) represent CAN added at concentrations of 0 ng/mL and 1 ng/mL, respectively.

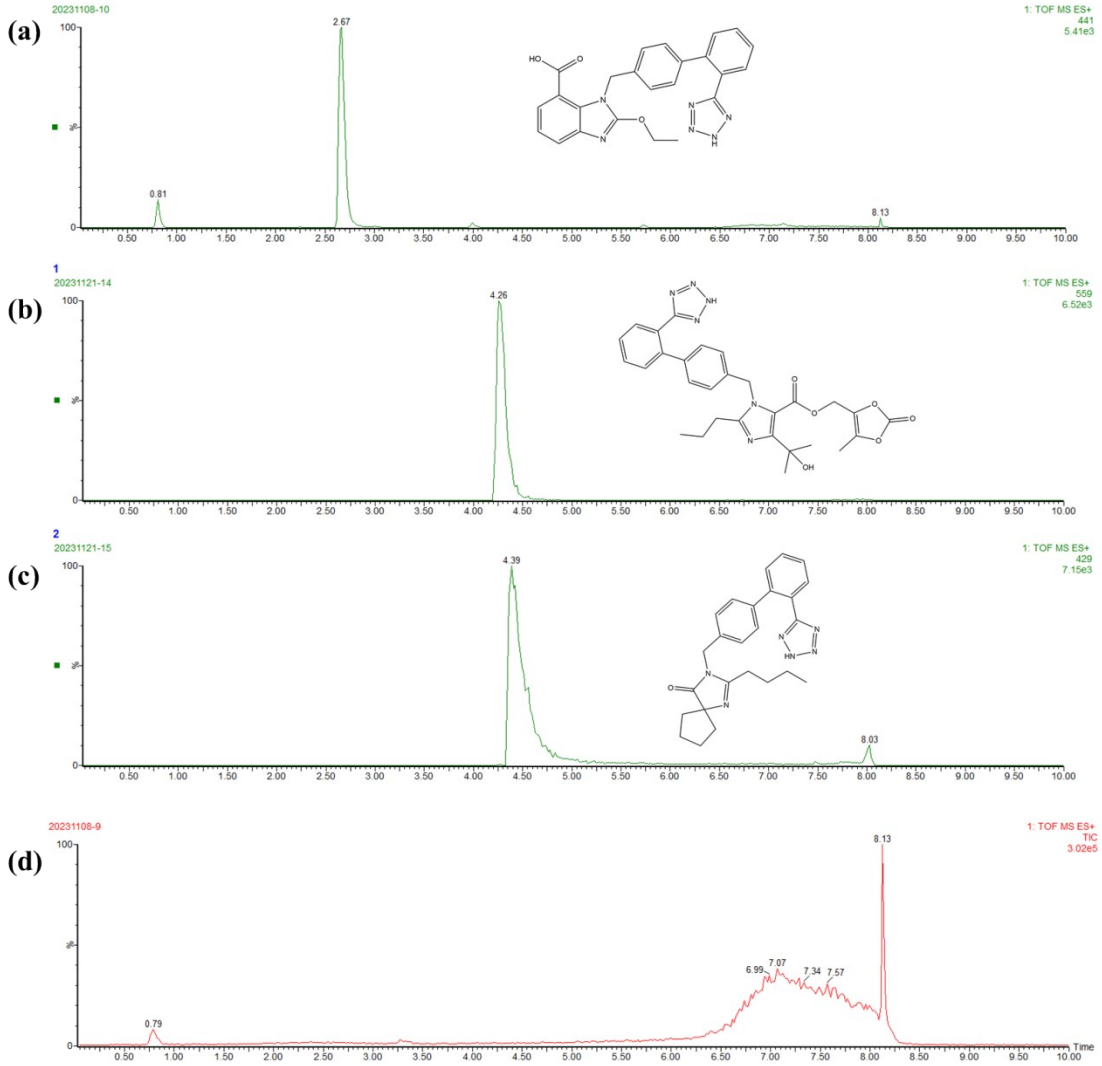



**Fig. S2.** Identification of negative sample by LC-MS/MS. (a) The detection results of CAN standard solution. (b) The detection results of OLM standard solution. (c) The detection results of IRB standard solution. (d) The detection results of negative herbal beverage sample.

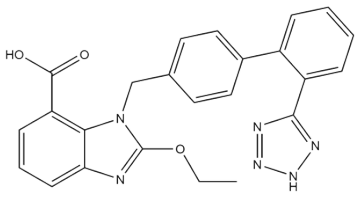
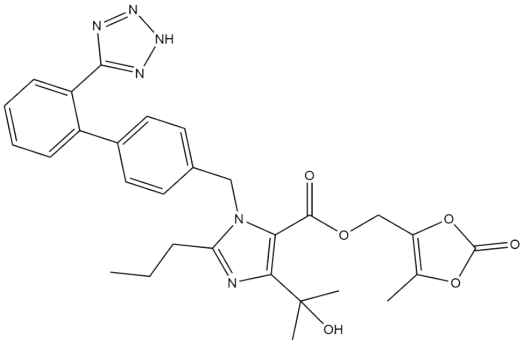
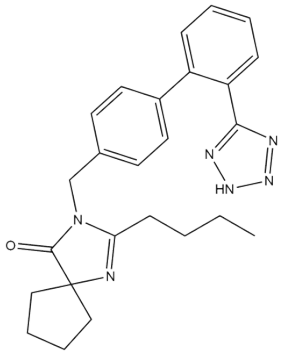
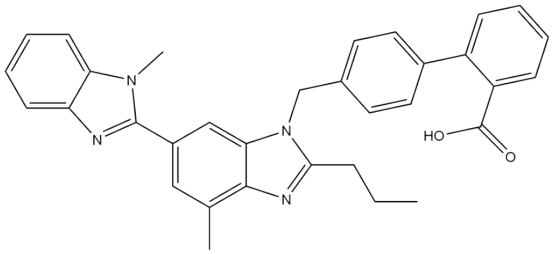
**Table S1 Reagent and Source**

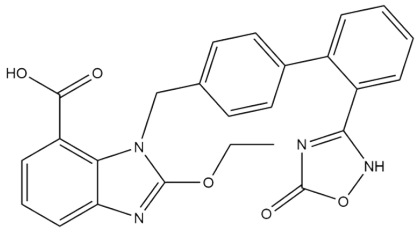
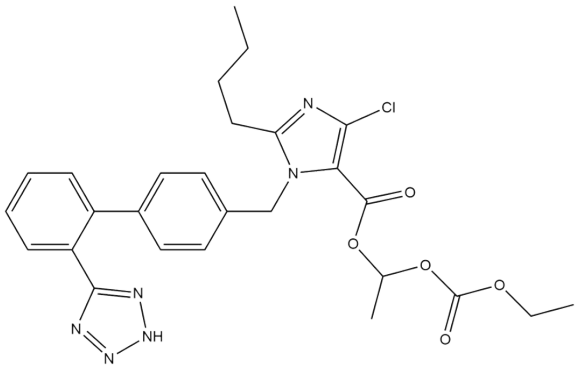
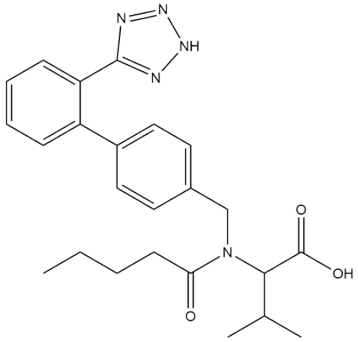
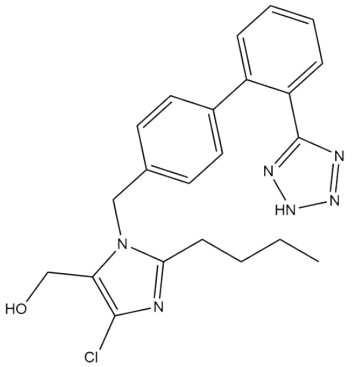
| Reagent | Source |
|---|---|
| Bovine serum albumin (BSA) | Sigma-Aldrich (St. Louis, MO, USA) |
| ovalbumin (OVA) | Sigma-Aldrich (St. Louis, MO, USA) |
| N-hydroxysuccinimide (NHS) | Sigma-Aldrich (St. Louis, MO, USA) |
| 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide (EDC) | Sigma-Aldrich (St. Louis, MO, USA) |
| Freund's complete adjuvant | Sigma-Aldrich (St. Louis, MO, USA) |
| Freund's incomplete adjuvant | Sigma-Aldrich (St. Louis, MO, USA) |
| RPMI-1640 cell culture medium | Gibco BRL (Paisley, UK) |
| hypoxanthine-thymidine supplement (HT) | Gibco BRL (Paisley, UK) |
| hypoxanthine-aminopterin-thymidine supplement (HAT) | Gibco BRL (Paisley, UK) |
| fetal bovine serum | Gibco BRL (Paisley, UK) |
| polyethylene glycol 1500 | Gibco BRL (Paisley, UK) |

**Table S2 Material and Source**

| Material | Source |
|---|---|
| CM4000 cutting modules | Gold Biotechnology Co. Ltd. (Shanghai, China) |
| Milli-Q Synthesis System | Millipore Co. (Bedford, MA, USA) |
| TSR 3000 membrane strip reader | Bio-Dot (Irving, CA, USA) |
| vortexer | Husi Analytical Instrument Factory Co. Ltd. (Shanghai, China) |
| absorbent pads (SX18) | Whatman-Xinhua Filter Paper Co. (Hangzhou, China) |
| fiberglass membranes (CB-SB08) | Whatman-Xinhua Filter Paper Co. (Hangzhou, China) |
| fiberglass conjugate pads (SAP-Z90) | Whatman-Xinhua Filter Paper Co. (Hangzhou, China) |
| nitrocellulose (NC) membranes (1UN14ER100025NT) | Whatman-Xinhua Filter Paper Co. (Hangzhou, China) |
| Polyvinyl chloride backing sheet | Shanghai Jieyi Biotechnology Co., Ltd. (Shanghai, China) |

**Table S3.** Cross-reaction results of the mAb 4G7.

| Chemicals | Structure | $IC_{50}$ (ng/mL) | CR (%) |
|---|---|---|---|
| Candesartan |  | 0.178 | 100 |
| Olmesartan medoxomil |  | 0.185 | 96 |
| Irbesartan |  | 0.262 | 68 |
| Telmisartan |  | >5 | <5 |

| | | | |
|---|---|---|---|
| Azilsartan |  | >5 | <5 |
| Elisartan |  | >5 | <5 |
| Valsartan |  | >5 | <5 |
| Losartan |  | >5 | <5 |

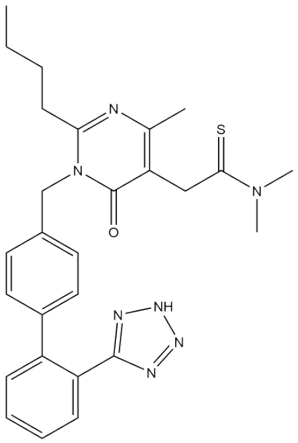
| | | | |
|---|---|---|---|
| Fimasartan |  | >5 | <5 |

**Table S4.** The results of stability for the ICA strip.

| | 0th day | 4th day | 8th day | 14th day |
|---|---|---|---|---|
| | T/C | T/C | T/C | T/C |
| 1 ng/mL | 0.112 | 0.115 | 0.117 | 0.116 |
| | 0.105 | 0.113 | 0.115 | 0.109 |
| | 0.118 | 0.116 | 0.112 | 0.112 |
| 0 ng/mL | 1.496 | 1.489 | 1.492 | 1.492 |
| | 1.500 | 1.492 | 1.493 | 1.491 |
| | 1.495 | 1.491 | 1.495 | 1.496 |