

Supplementary material

a) SEM image of the flat PMMA slide

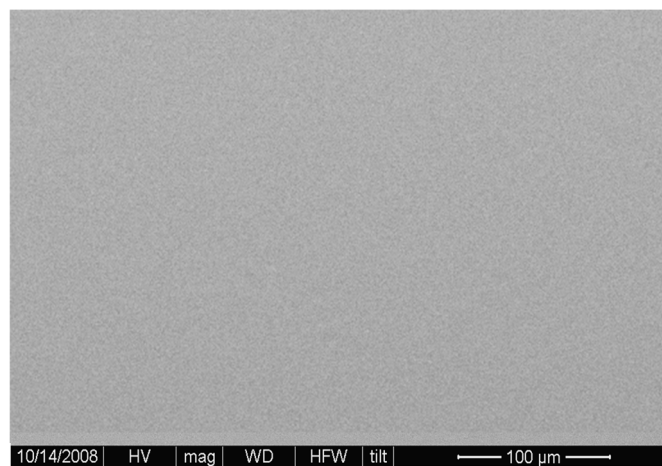


Figure S1. SEM image of a flat PMMA surface (prior to plasma micro-nanostructuring).

b) Optimization of the mycotoxin assays

i) Selection of mycotoxin-conjugate and anti-mycotoxin antibody concentrations

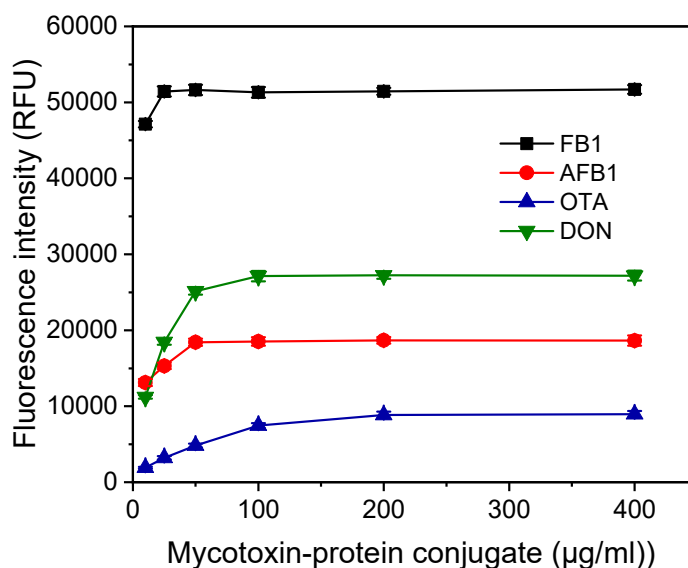


Figure S2. Fluorescence intensity values obtained from Ag-3D slides versus the mycotoxin-protein concentration used for spotting when each antibody has been used at a concentration of 1 µg/mL. Black squares correspond to FB1, red circles to AFB1, blue up triangles to OTA, and green down triangles to DON. Each point is the mean value of 16 spots \pm SD.

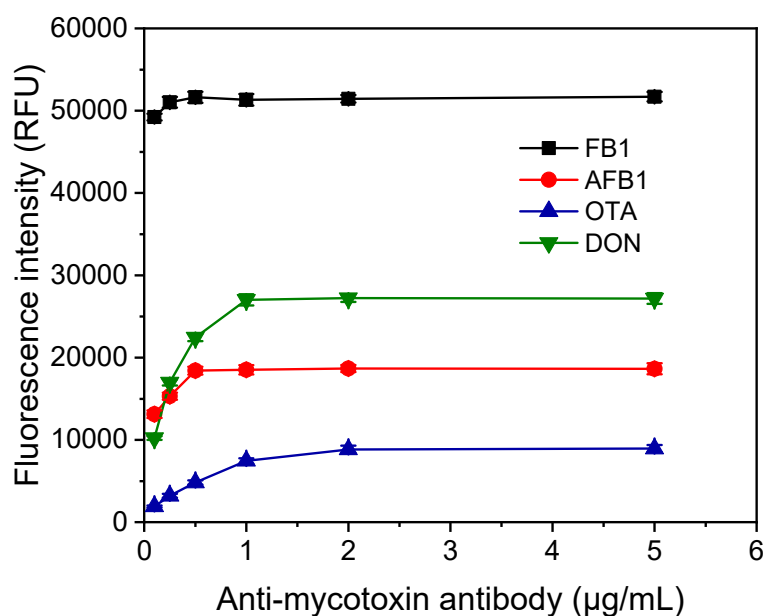


Figure S3. Fluorescence intensity values obtained from Ag-3D slides spotted with 25 µg/mL of FB1-OVA, 50 µg/mL of AFB1-BSA, 200 µg/mL of OTA-OVA, and 100 µg/mL of DON-OVA versus the anti-

mycotoxin antibody concentration. Black squares correspond to FB1, red circles to AFB1, blue up triangles to OTA, and green down triangles to DON. Each point is the mean value of 16 spots \pm SD.

iii) Optimization of primary and secondary immunoreactions duration

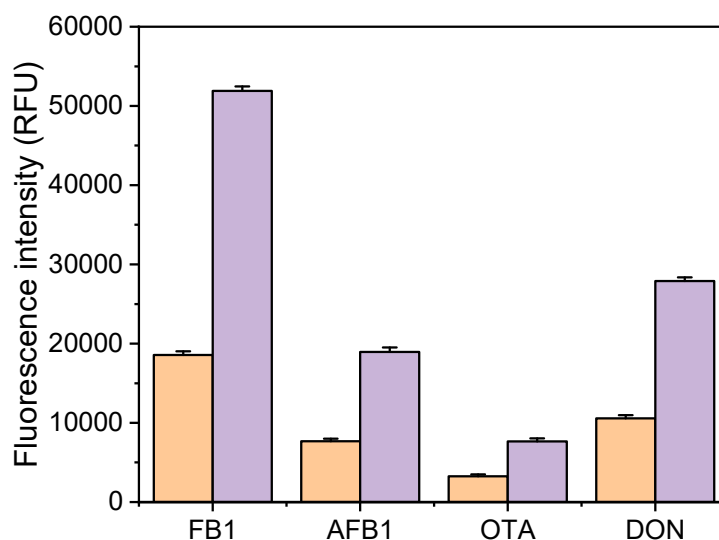


Figure S4. Fluorescence intensity values received using secondary antibodies either fluorescently labelled (orange bars) or biotinylated in combination with fluorescently labelled streptavidin (purple bars). The primary immunoreactions' duration was 1 h in all cases. Each point is the mean value of 16 spots \pm SD.

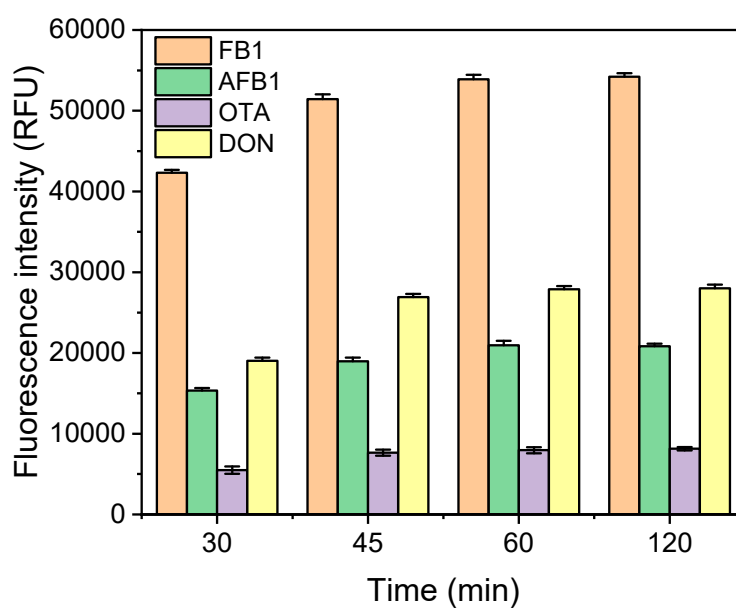


Figure S5. Fluorescence intensity values versus the reaction time with the biotinylated secondary antibodies. Orange bars correspond to FB1, green bars to AFB1, purple bars to OTA, and yellow bars

to DON. The primary immunoreactions' duration was 1 h in all cases and the reaction with the fluorescently labelled streptavidin lasted 15 min. Each point is the mean value of 16 spots \pm SD.

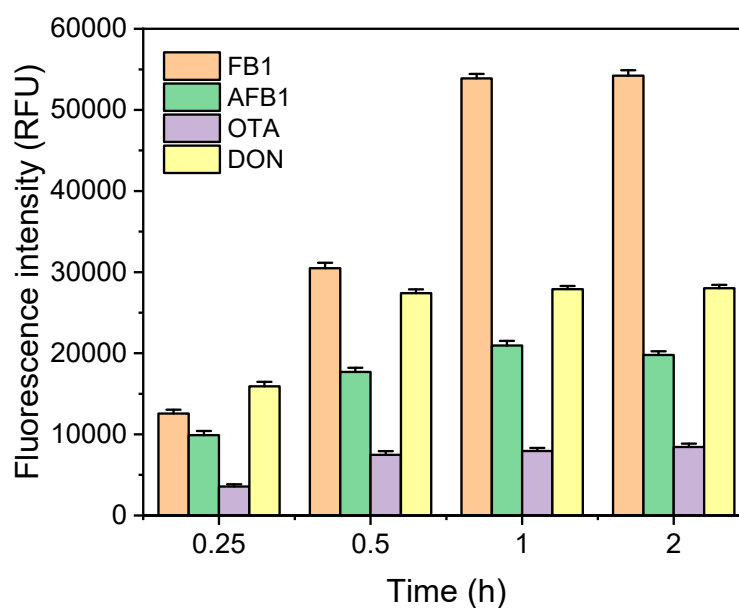


Figure S6. Fluorescence intensity values versus the primary immunoreactions duration. Orange bars correspond to FB1, green bars to AFB1, purple bars to OTA, and yellow bars to DON. The reaction time with the biotinylated secondary antibodies was 45 min and with the fluorescently labelled streptavidin 15 min. Each point is the mean value of 16 spots \pm SD.