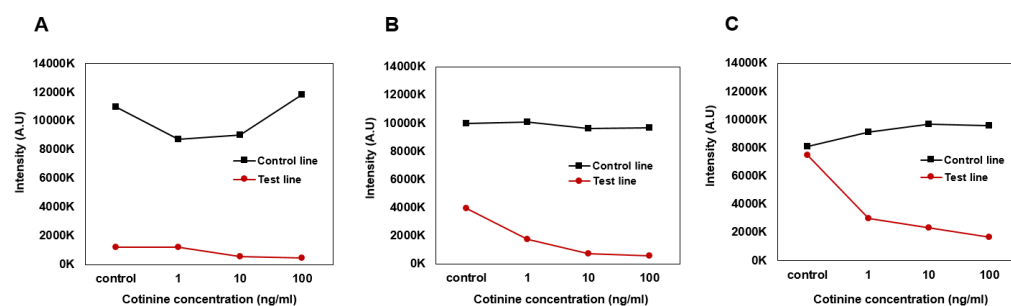
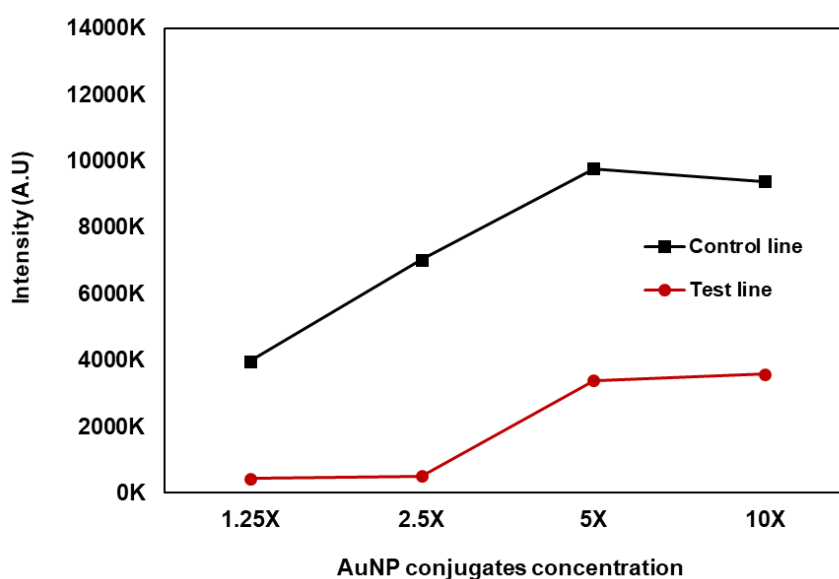


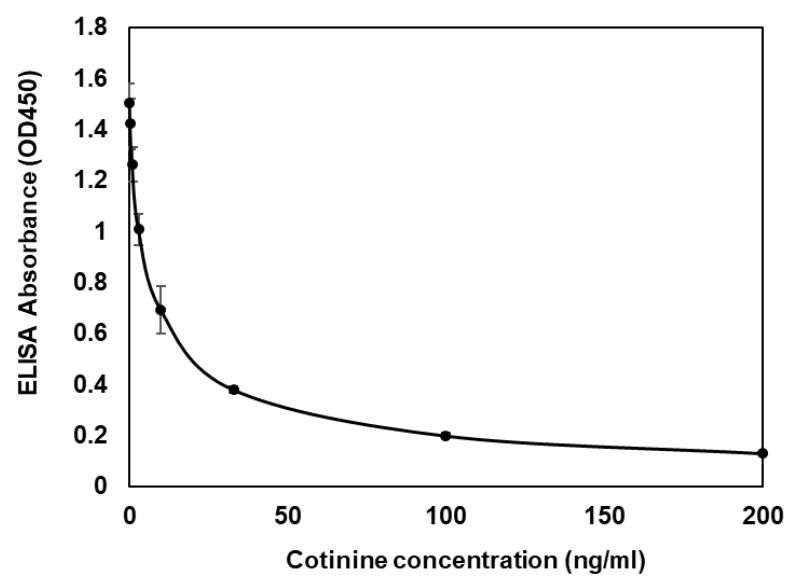
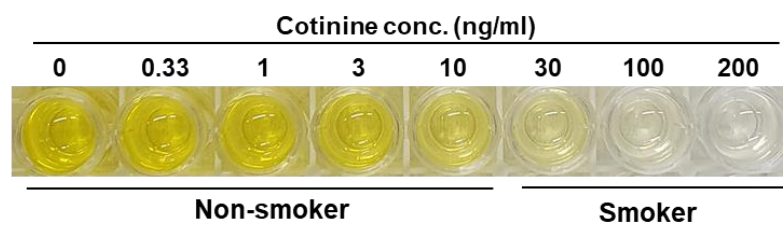
**Figure S1.** Reproducibility test of collecting and applying saliva using a cotton swab to the gap-LFIA. **(A)**, Average sample volume collected by the cotton swab in Step 1 in Figure 2. All data shown are presented as the mean  $\pm$  standard deviation ( $n = 7$ ). **(B)**, The portions of eluted saliva samples from the cotton swab in Step 3 in Figure 2. All data shown are presented as the mean  $\pm$  standard deviation ( $n = 3$ ).



**Figure S2.** Optimization for the concentration of anti-cotinine antibody in the gap-LFIA. **(A)** 12.5 ng/ml, **(B)** 25 ng/ml, and **(C)** 50 ng/ml of the anti-cotinine antibody.



**Figure S3.** Comparison of the intensity of the gap-LFIA with 25 ng/mL cotinine antibody by the concentration of AuNP-secondary Ab conjugates without cotinine.



**Figure S4.** Cotinine ELISA test by spiked in saliva in the cotinine concentration range of smokers and non-smokers.