

Supporting Information

Ergometrine sensing in rye flour by a magnetic bead-based immunoassay followed by flow injection analysis with amperometric detection

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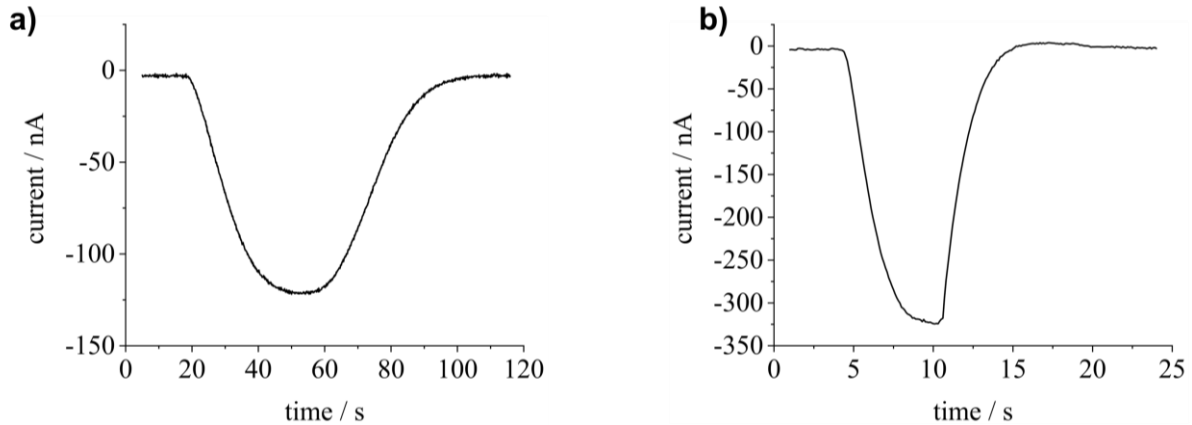


Figure S1 Amperometric current signals obtained with the flow injection system and screen-printed gold electrodes at 0 V vs. Ag/AgCl for the injection of 300 μL 10 μM potassium ferricyanide in 100 mM potassium phosphate buffer with 100 mM KCl (pH 7) and a flow rate of **a)** 0.5 mL min⁻¹ and **b)** 4 mL min⁻¹.

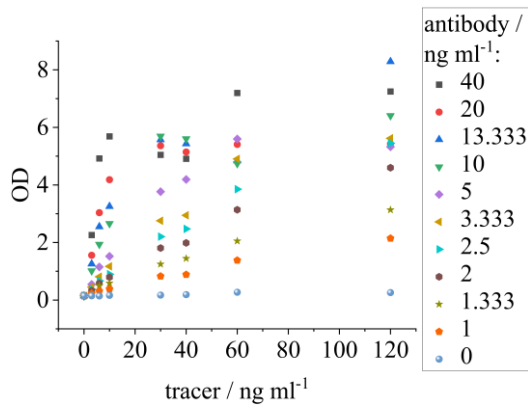


Figure S2 OD-Signals obtained with different tracer and antibody concentrations in the plate-based ELISA (without the addition of ergometrine) for the optimization of the assay.

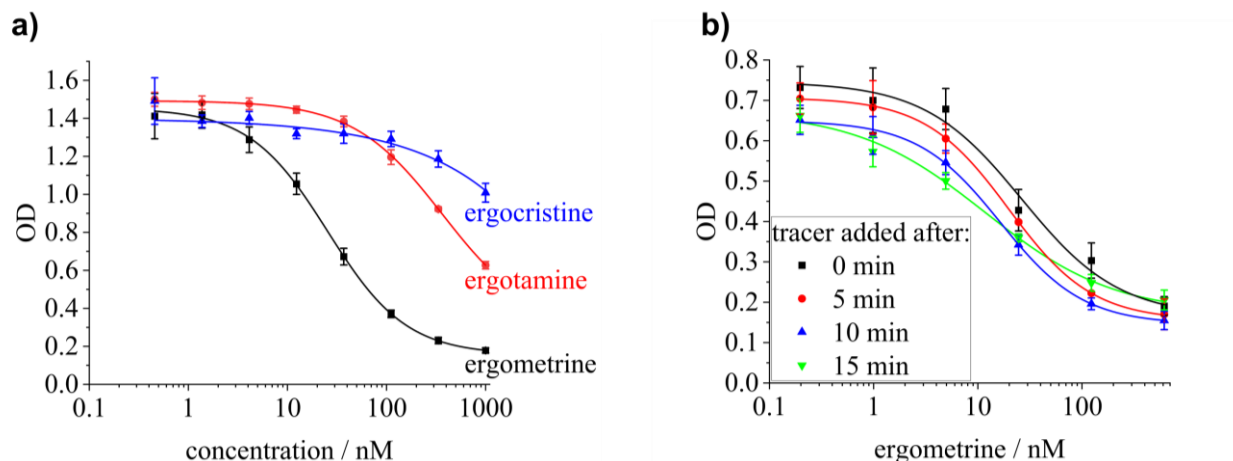


Figure S3 a) ELISA calibration curves for ergometrine, ergotamine or ergocristine. Obtained cross-reactivities were 100% for ergometrine ($C_{\text{ergometrine}} = 25.5 \pm 0.8 \text{ nM}$ ($8.3 \pm 0.3 \mu\text{g L}^{-1}$)), 7% for ergotamine and $<0.1\%$ for ergocristine; **b)** Ergometrine ELISA calibration curves with different tracer incubation times. The ergometrine standards were incubated in total for 30 min with the antibody-coated microplate and the tracer was added immediately after the standards or after 5 min, 10 min or 15 min of pre-incubation with standard. The obtained C-values were $C_{0 \text{ min}} = 26 \pm 9 \text{ nM}$ ($9 \pm 3 \mu\text{g L}^{-1}$), $C_{5 \text{ min}} = 19.8 \pm 0.1 \text{ nM}$ ($6.43 \pm 0.05 \mu\text{g L}^{-1}$), $C_{10 \text{ min}} = 16 \pm 1 \text{ nM}$ ($5.3 \pm 0.3 \mu\text{g L}^{-1}$), and $C_{15 \text{ min}} = 12 \pm 3 \text{ nM}$ ($3.8 \pm 0.8 \mu\text{g L}^{-1}$).

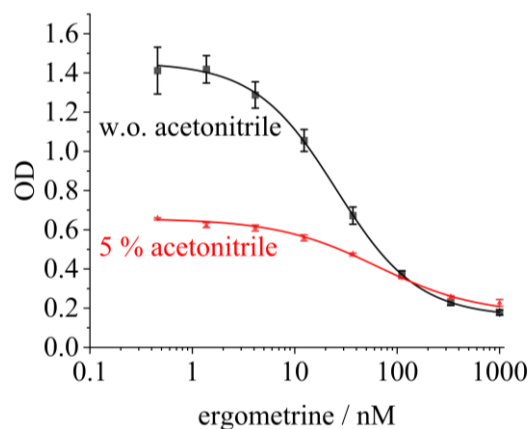


Figure S4 ELISA calibration curves for ergometrine in absence and in the presence of 5% acetonitrile, $C_{\text{w.o. acetonitrile}} = 26 \pm 9 \text{ nM}$ ($9 \pm 3 \mu\text{g L}^{-1}$) $C_{5\% \text{ acetonitrile}} = 63 \pm 9 \text{ nM}$ ($21 \pm 3 \mu\text{g L}^{-1}$).