Electronic Supplementary Material

Fluorescence Anisotropy Assay for D-Vasopressin with Tetramethylrhodamine-Labeled Aptamer

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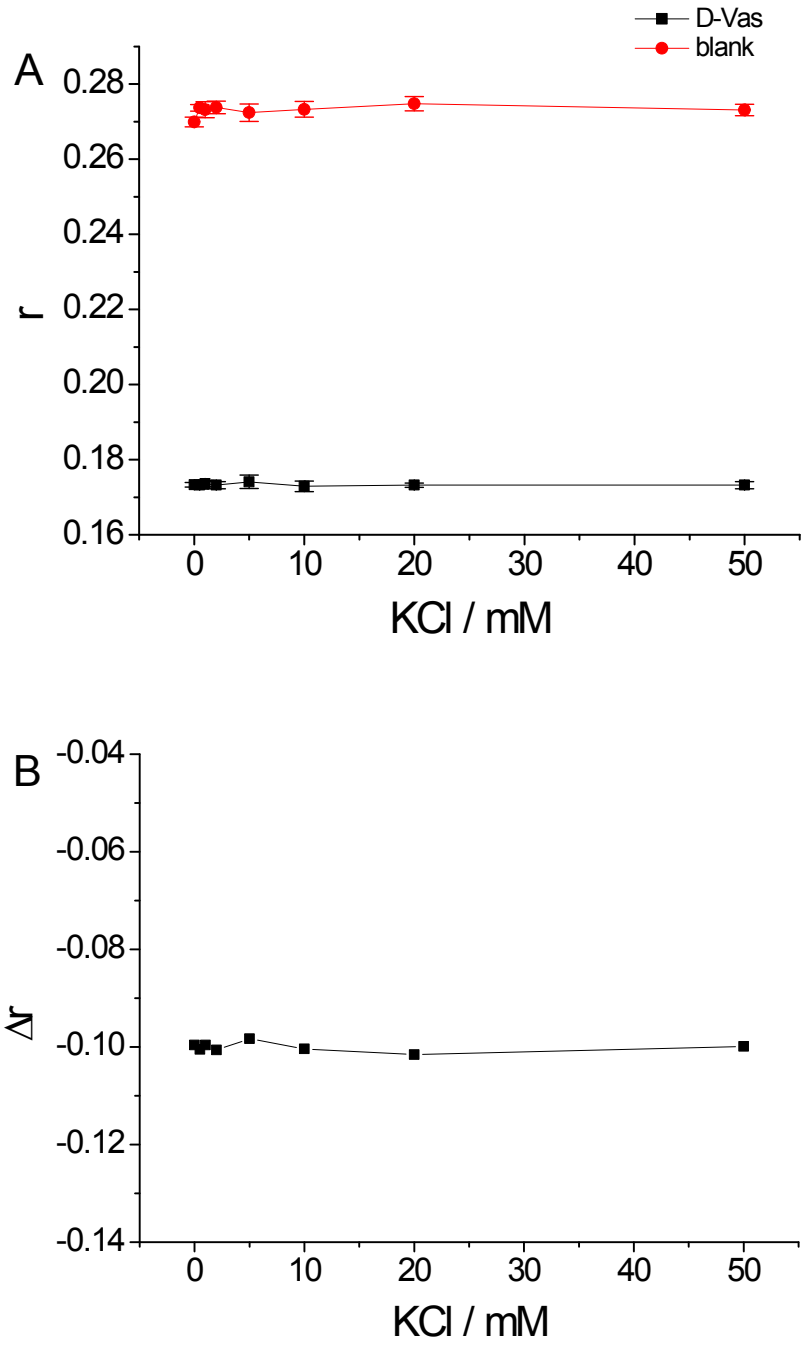

Fig. S1 (A) Effects of KCl concentration on the FA responses of Vas-34T-TMR in the absence or the presence of D-Vas in the binding buffer solution containing 50 mM Tris-HCl (pH 7.5), 50 mM NaCl, 1 mM $MgCl_2$, 1 mM $CaCl_2$, 0.1% Tween 20, and various concentrations of KCl. (B) The FA change of Vas-34T-TMR caused by D-Vas vs KCl concentration.

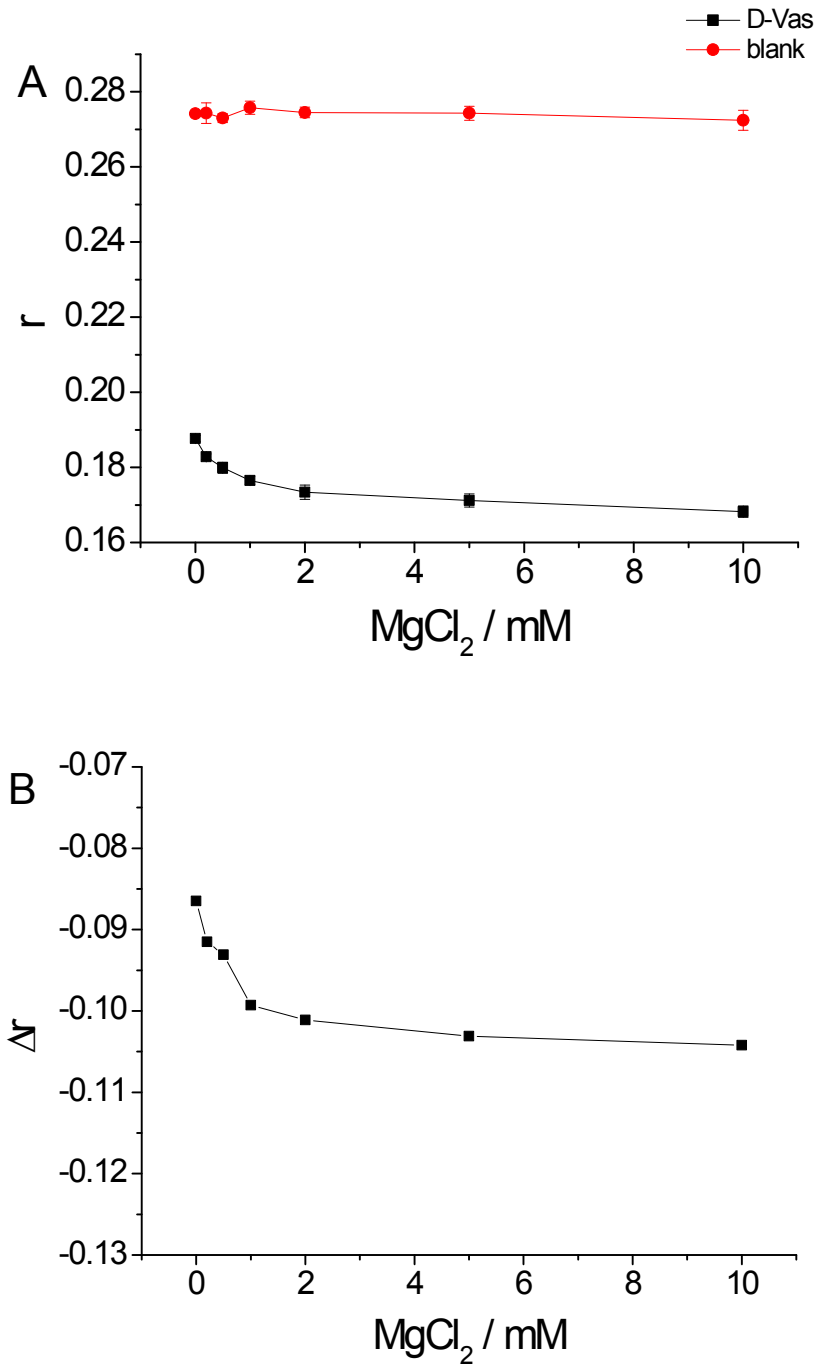

Fig. S2 (A) Effects of $MgCl_2$ concentration on the FA responses of Vas-34T-TMR in the absence or the presence of D-Vas in the binding buffer solution containing 50 mM Tris-HCl (pH 7.5), 50 mM NaCl, 1 mM $CaCl_2$, 0.1% Tween 20, and various concentrations of $MgCl_2$. (B) The FA change of Vas-34T-TMR caused by D-Vas vs $MgCl_2$ concentration.

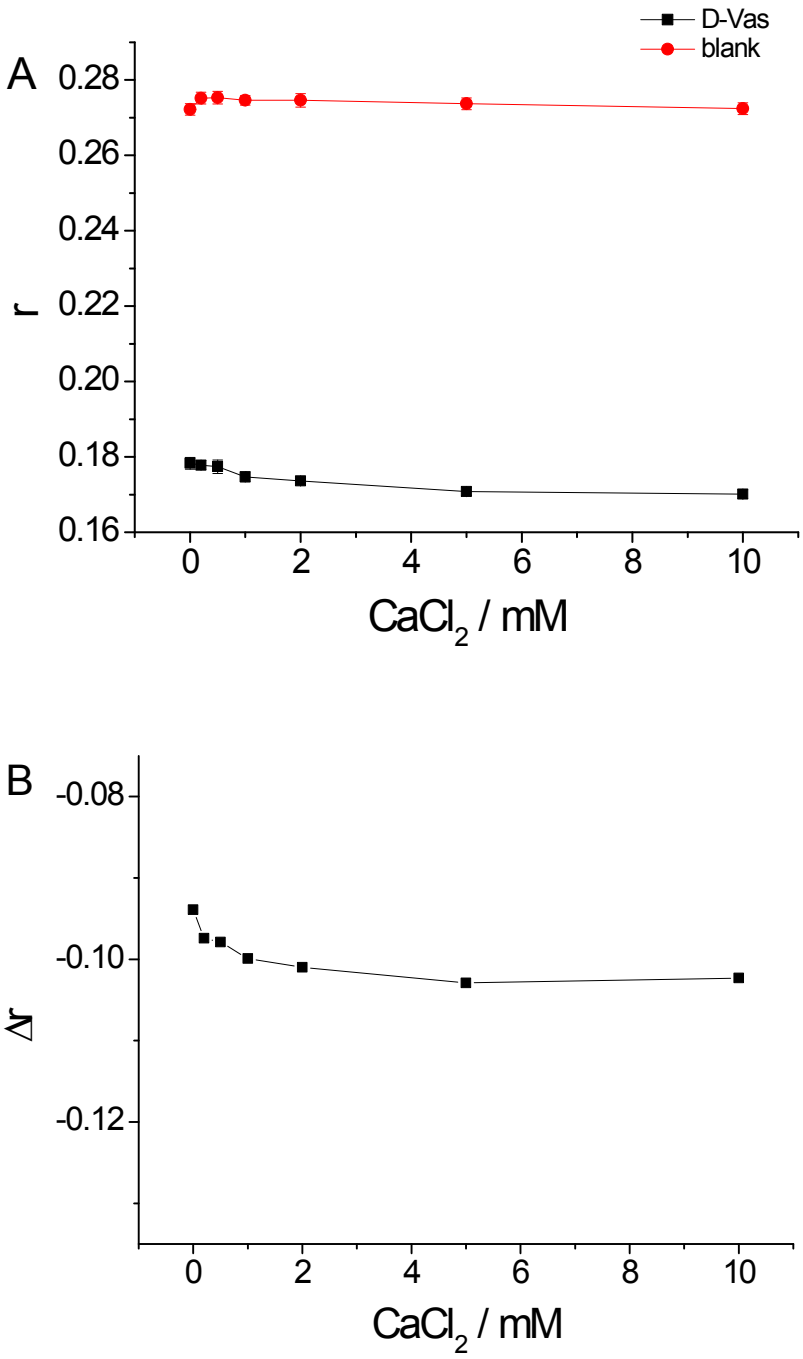

Figure. S3 (A) Effects of $CaCl_2$ concentration on the FA responses of Vas-34T-TMR in the absence or the presence of D-Vas in the binding buffer solution containing 50 mM Tris-HCl (pH 7.5), 50 mM NaCl, 1 mM $MgCl_2$, 0.1% Tween 20, and various concentrations of $CaCl_2$. (B) The FA change of Vas-34T-TMR caused by D-Vas vs $CaCl_2$ concentration.

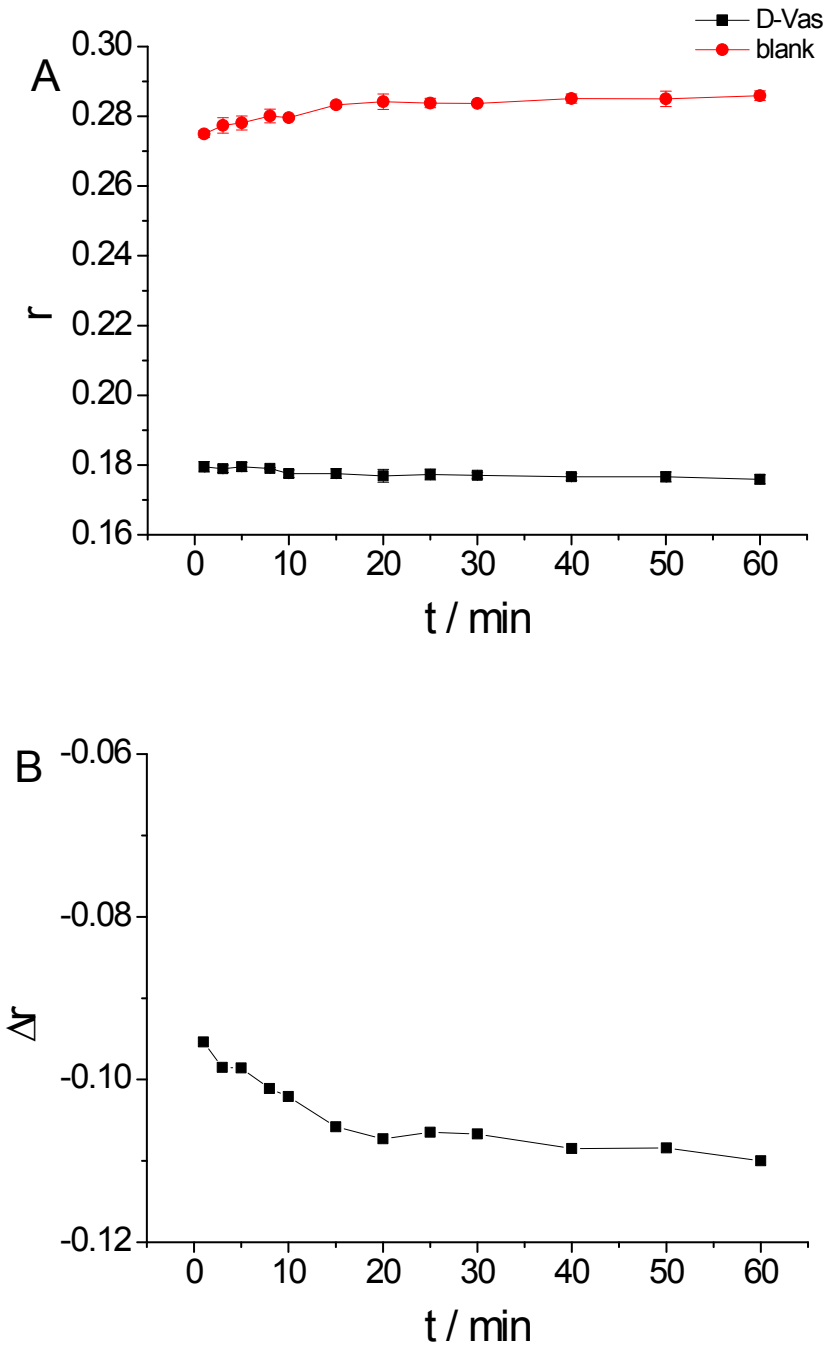

Fig. S4 (A) Effects of incubation time on the FA of Vas-34T-TMR in the absence or the presence of D-Vas. (B) The FA change of Vas-34T-TMR caused by D-Vas vs the incubation time.

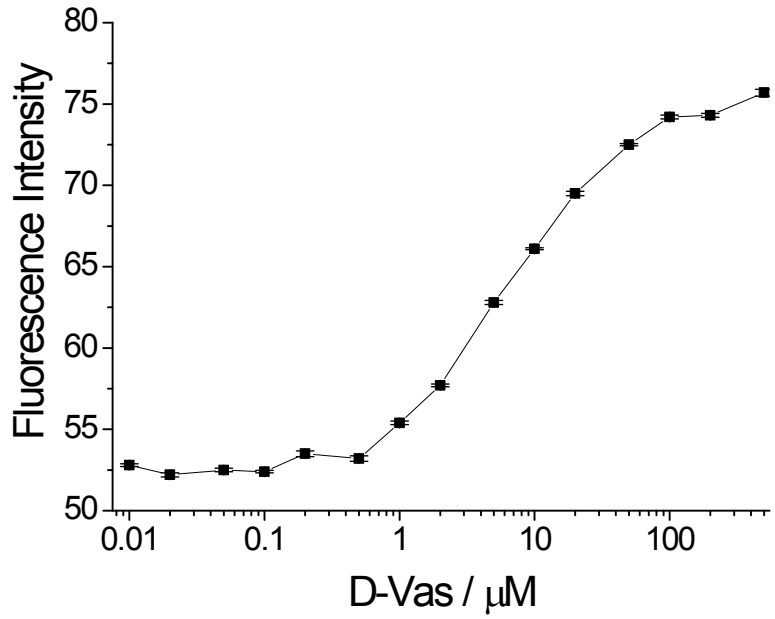

Fig. S5 Fluorescence intensity of Vas-34T-TMR in response to different concentrations of D-Vas.

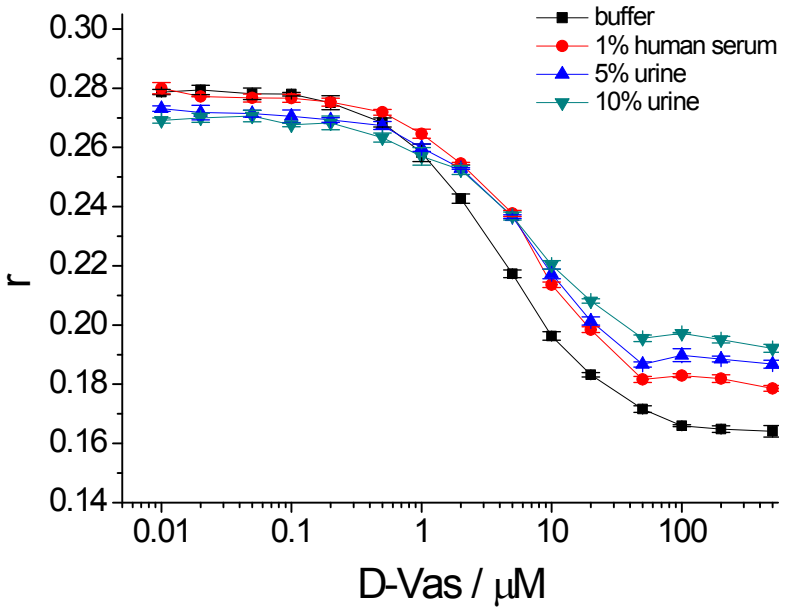

Fig.S6 FA sensing D-Vas spiked in different complex sample matrix by using Vas-34T-TMR

Table.S1 Comparison of a few aptamer-based assays for D-Vas

Methods	LOD	Ref.
Microfluidic platform coupled with MALDI-MS	1 pM	38
Surface-enhanced Raman spectroscopy (SERS) assay based on aptamer-functionalized nanopillars	1 pM	41
Microfluidic electrochemical sensors	43 pM	39
Microfluidic platform coupled with fluorescence detection	100 pM	38
Electrochemical aptasensor using redox methylene blue-confined graphene multilayer	0.9 nM	40
Assay using split aptamer and graphene-mesoporous silica-gold NP hybrids	4.6 nM	35
Fluorescent indicator displacement assay	0.1 μM	36
Fluorescence polarization assay using TMR labeled aptamer	0.2 μM	This work
HPLC using aptamer as chiral stationary phase	not reported	34