

Self-assembled poloxamer-legumin/vicilin nanoparticles for the nanoencapsulation and controlled release of folic acid

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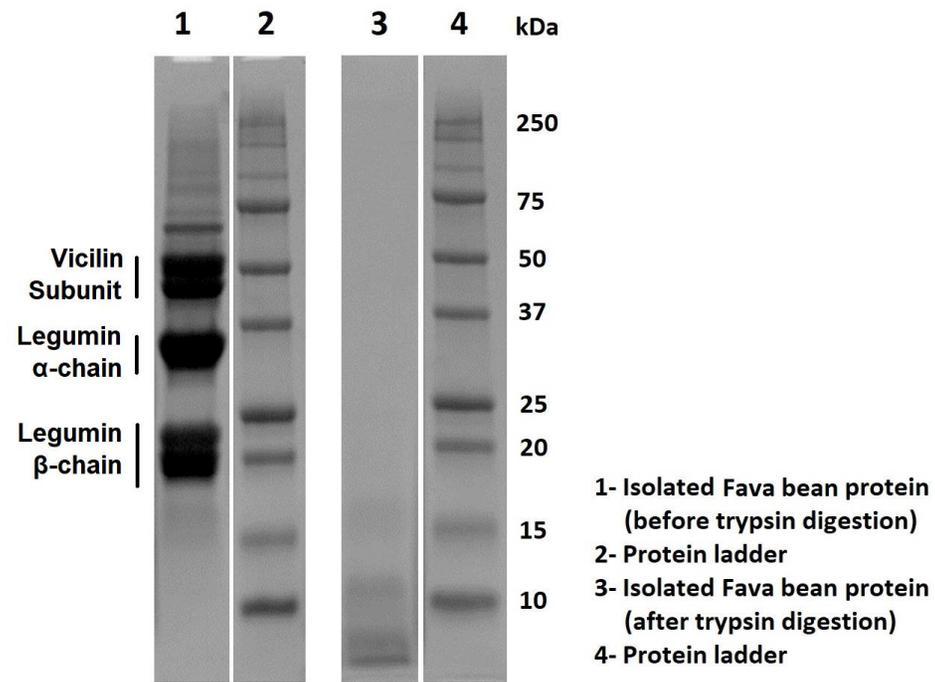


Figure S1. SDS-PAGE profile of purified protein

Table S1- List of identified proteins purified from fava bean

Accession	Description	Sp.	Coverage (%)	#Peptides	#Unique	Area faba bean	% Abundance of protein
sp P05190 LEGB4_VICFA	Legumin type B	Vicia faba	83	142	34	2.53E+10	15.78
I0B569 I0B569_VICFA	Vicilin	Vicia faba	82	129	117	3.54E+10	22.09
sp P08438 VCL_VICFA	Vicilin	Vicia faba	82	129	117	3.54E+10	22.09
Q43673 Q43673_VICFA	Legumin; legumin-related high molecular weight polypeptide	Vicia faba var. minor	83	137	80	2.38E+10	14.85
sp P16080 LEGB7_VICFA	Legumin type B (Fragment)	Vicia faba	91	105	4	2.34E+07	0.01
Q99304 Q99304_VICFA	Legumin A2 primary translation product	Vicia faba var. minor	73	126	60	2.78E+10	17.31
Q03971 Q03971_VICFA	N-terminal incomplete legumin A1 pre-pro-polypeptide (Fragment)	Vicia faba var. minor	80	101	35	8.02E+09	5.00
B0BCL8 B0BCL8_VICFA	Convicilin (Fragment)	Vicia faba	60	67	28	2.20E+09	1.37
Q43672 Q43672_VICFA	Legumin; legumin-related high molecular weight polypeptide (Fragment)	Vicia faba var. minor	82	36	9	6.73E+08	0.42
Q43671 Q43671_VICFA	Storage protein	Vicia faba var. minor	63	53	11	7.59E+08	0.47
Q9AVP7 Q9AVP7_VICFA	Putative sucrose binding protein	Vicia faba var. minor	45	22	22	5.06E+08	0.32
Q43674 Q43674_VICFA	Legumin; legumin-related high molecular weight polypeptide (Fragment)	Vicia faba var. minor	75	23	3	3.68E+07	0.02
B0BCL7 B0BCL7_VICFA	Convicilin (Fragment)	Vicia faba	38	32	7	3.32E+07	0.02
B0BCK9 B0BCK9_9FABA	Cvc protein (Fragment)	Vicia disperma	32	39	3	3.80E+05	0.00
B0BCL2 B0BCL2_9FABA	Convicilin (Fragment)	Vicia peregrina	40	36	8	1.44E+08	0.09
B0BCL0 B0BCL0_9FABA	Cvc protein (Fragment)	Vicia bithynica	30	33	5	8.05E+07	0.05
B0BCL3 B0BCL3_9FABA	Convicilin (Fragment)	Vicia lutea	29	31	3	1.37E+07	0.01
B0BCL5 B0BCL5_9FABA	Convicilin (Fragment)	Vicia ervilia	31	23	7	6.24E+07	0.04
B0BCL4 B0BCL4_9FABA	Convicilin (Fragment)	Vicia articulata	18	19	3	9.79E+07	0.06
sp P02871 LEC_VICFA	Favin	Vicia faba	12	2	2	4.00E+06	0.00

Q8RVW9 Q8RVW9_VICF A	Lectin	Vicia faba	11	2	2	4.00E+06	0.00
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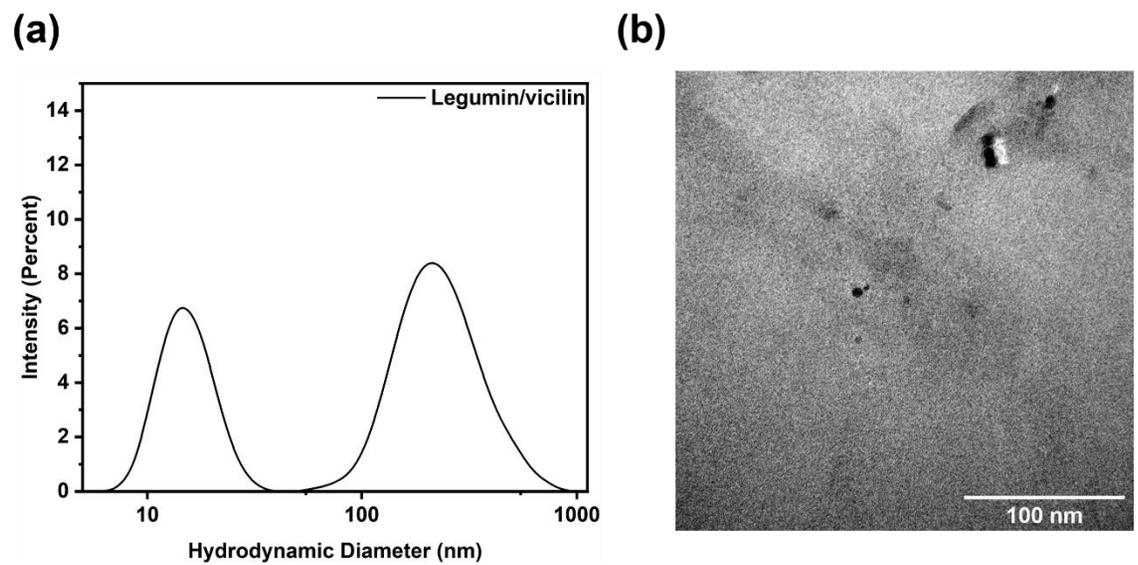


Figure S2: Representative DLS measurements (a) and TEM images (b) of legumin/vicilin

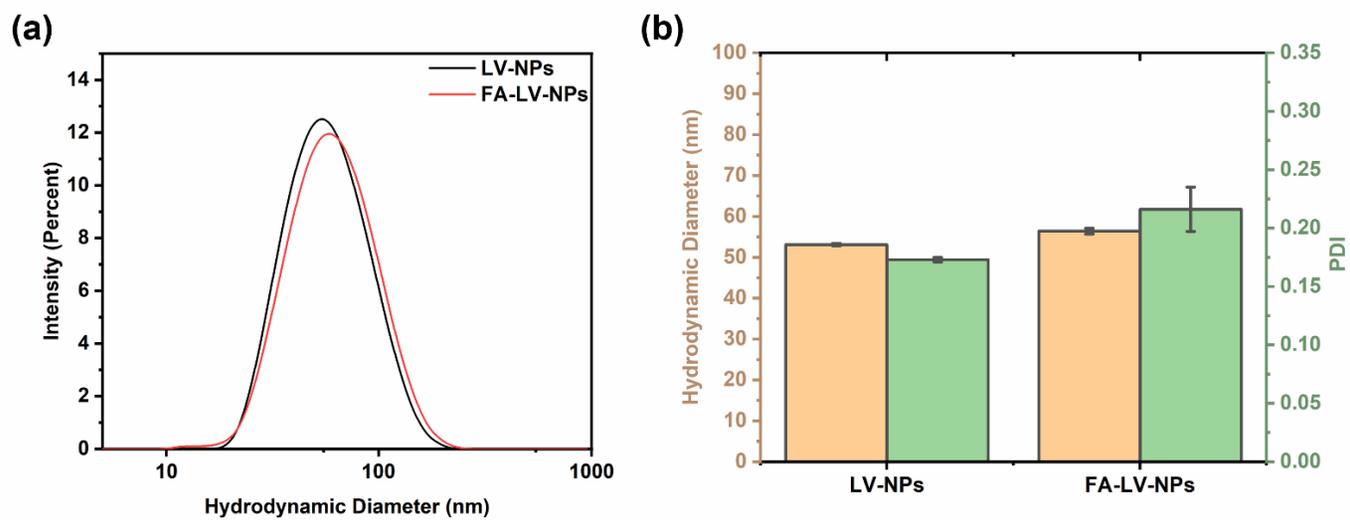


Figure S3. Effect of FA loading (starting FA concentration = 1 mg/mL) on the sizes of formed nanoparticles

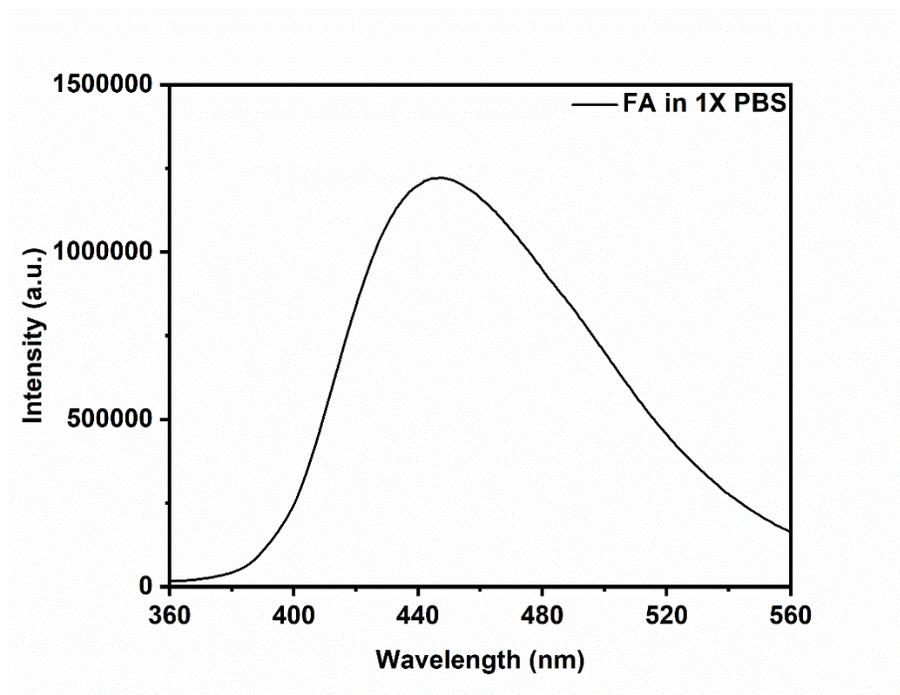


Figure S4. 0.1 mg/mL of FA in 1X PBS. $\lambda_{\text{ex}} = 347$ nm

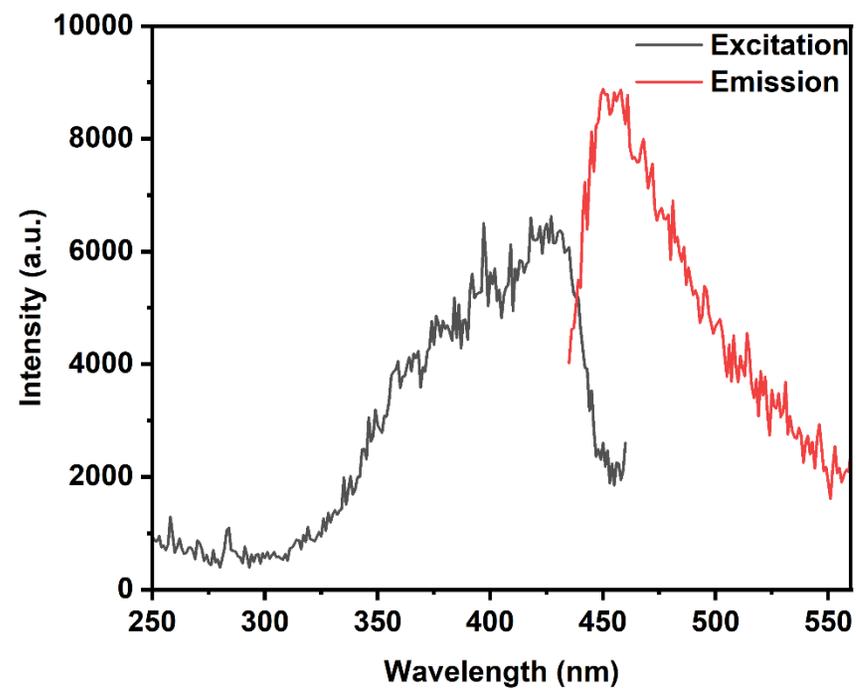


Figure S5. Folic acid fluorescence spectra in SGF; concentration: 1 mg/mL. For excitation scan, $\lambda_{em}=460$ nm. For emission scan, $\lambda_{ex}=420$ nm.

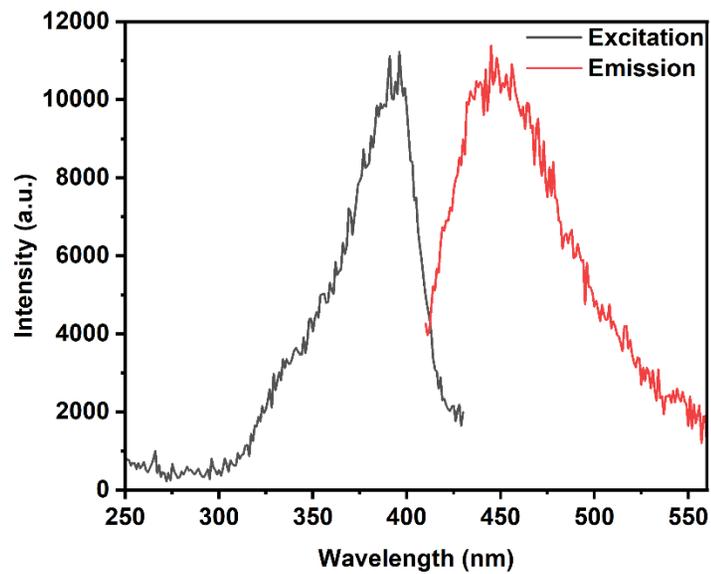


Figure S6. Folic acid fluorescence spectra in SIF; concentration: 1 mg/mL. For excitation scan, $\lambda_{em}=450$ nm. For emission scan, $\lambda_{ex}=395$ nm.