

## Supplementary Figures

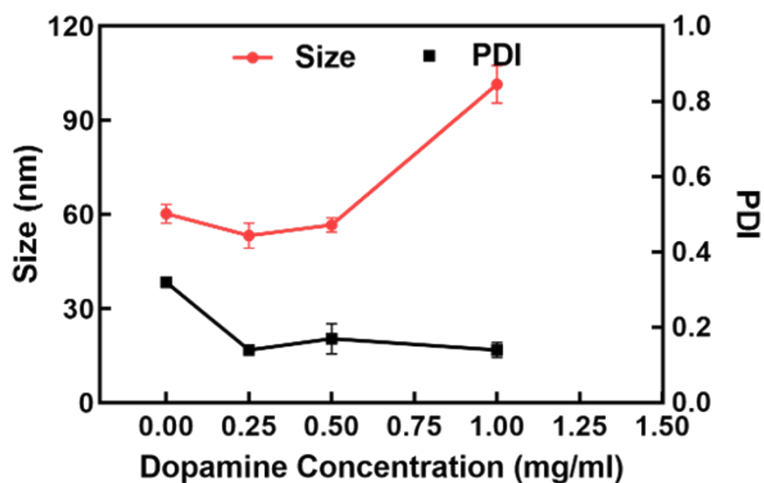


Figure S1. DLS size and polydispersity index (PDI) of Zein NPs with increasing dopamine concentration, Zein=10 mg/ml.

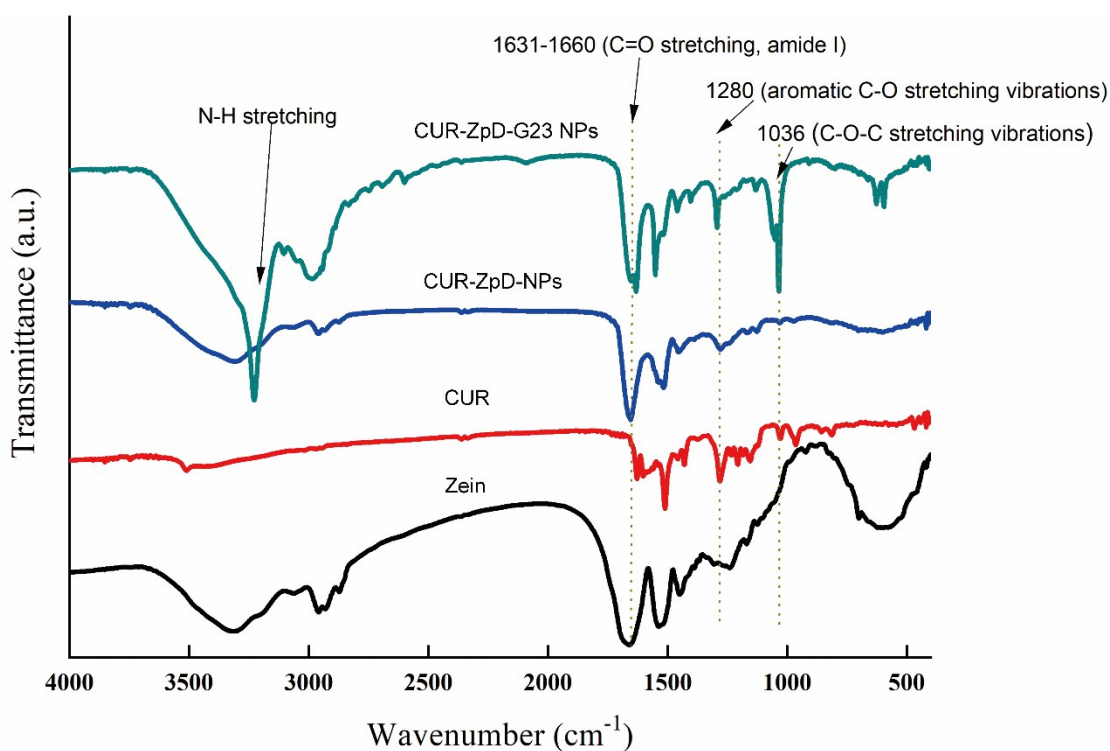


Figure S2. FTIR spectra of zein, CUR, CUR-ZpD NPs and CUR-ZpD-G23 NPs.

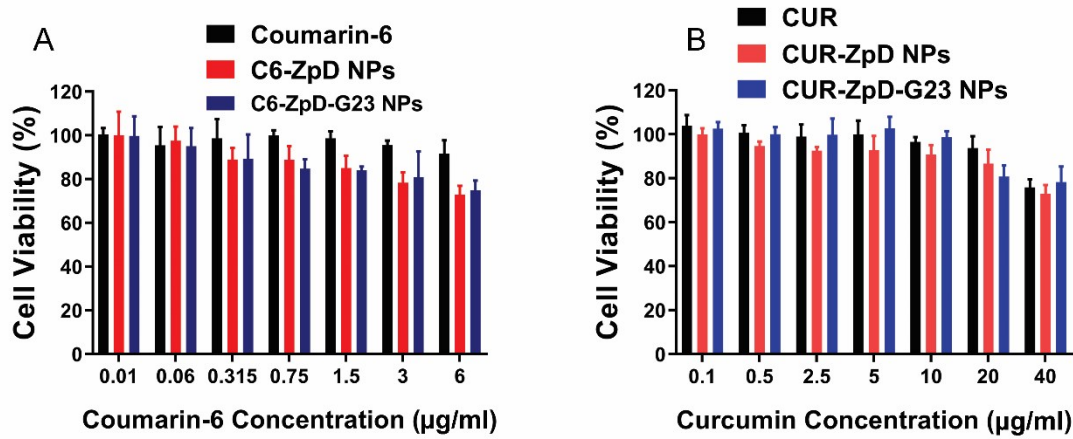


Figure S3. Relative viability of human cerebral microvascular endothelial (hCMEC/D3) cells in presence of C6- and curcumin-loaded ZpD NPs. (A) Viability of cells incubated with increasing concentration of coumarin-6 or coumarin-6 loaded nanoparticles. (B) Viability of cells incubated with increasing concentration of curcumin or curcumin loaded nanoparticles. The weight concentration of coumarin-6 loaded NPs equals that of CUR-loaded NPs (curcumin=40 µg/ml). The cell viability was assessed by MTT assay after incubation for 24 h. (n=3)

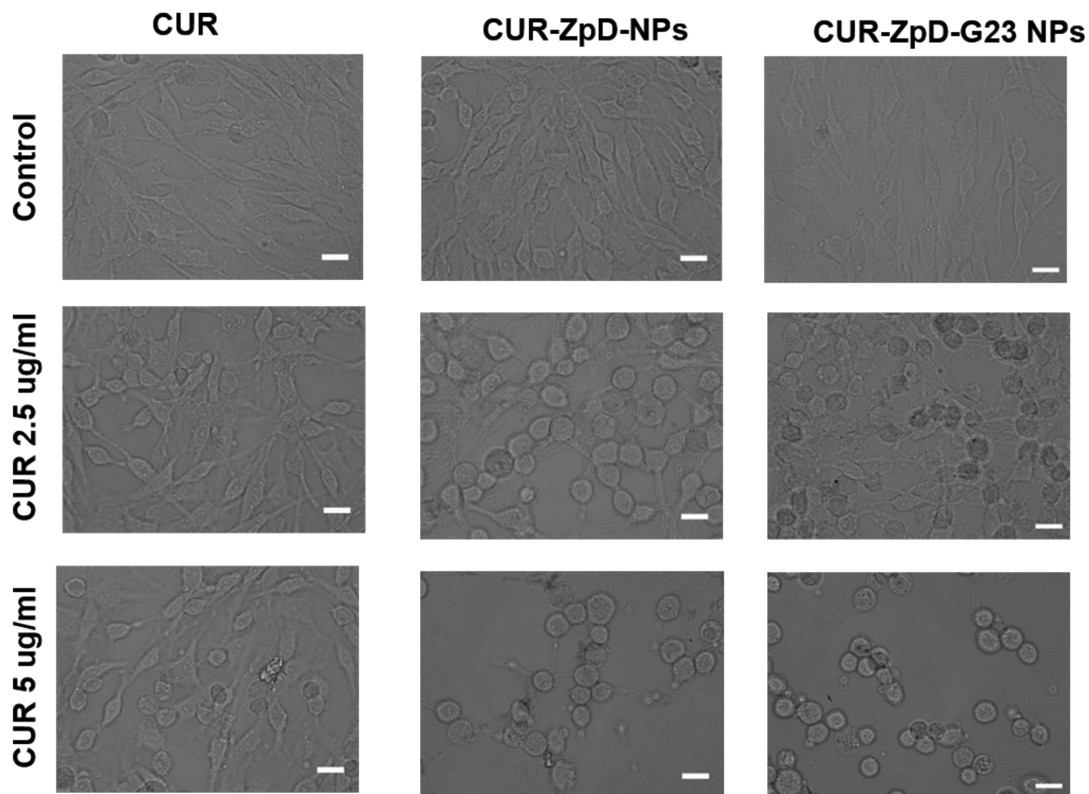


Figure S4. Morphology of C6 glioma cells after treatment with CUR, CUR-ZpD-NPs and CUR-ZpD-G23 NPs for 24 h. Scale bars represent 20 µm.

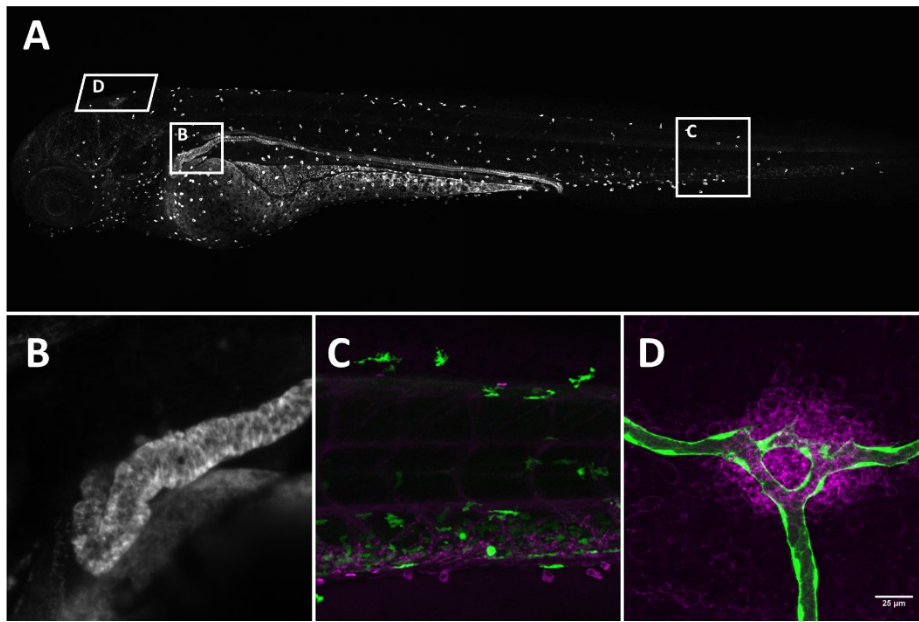


Figure S5. Off-targeting of Cy3-NH<sub>2</sub> in 3.5 dpf zebrafish larva, 2hpi. (a) Cy3-NH<sub>2</sub> distribution in whole larva, (b) Cy3-NH<sub>2</sub> fluorescence in kidneys, (c) Cy3-NH<sub>2</sub> (magenta) uptake by ionocytes, in mpeg:GFP (green) larva, (d) dorsal view extravasation of Cy3-NH<sub>2</sub> (magenta) from vasculature (green) to Choroid Plexus, in kdlr:GFP larva.

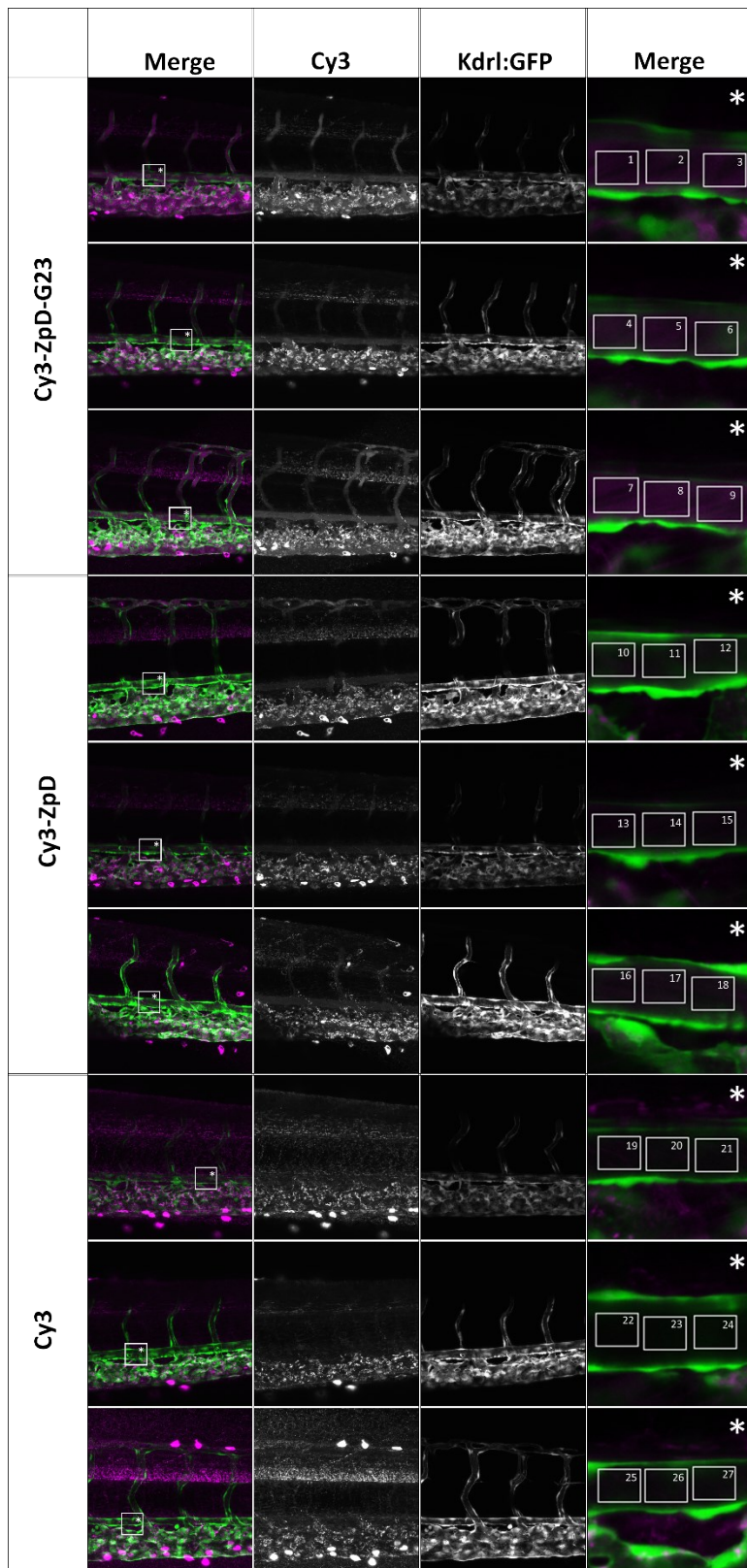


Figure S6. Confocal microscopy stacks of *kdr1:GFP* (green) larvae injected with Cy3-ZpD-G23, Cy3-ZpD or Cy3-NH<sub>2</sub> (magenta). Boxes with numbers represent ROIs of measured fluorescence intensity of Cy3 for sum of 4 slices of dorsal aorta shown in Table S1.

			Box	Nr	mean	min	max
Cy3-Zein-PD-G23	Fish 1	ROI1	1	81.194	167.097	91.000	260.000
		ROI2	2	81.194	183.205	129.000	253.000
		ROI3	3	81.194	181.169	119.000	247.000
	Fish 2	ROI1	4	81.194	126.006	74.000	209.000
		ROI2	5	81.194	124.010	64.000	225.000
		ROI3	6	81.194	132.817	60.000	236.000
	Fish 3	ROI1	7	81.194	134.569	95.000	184.000
		ROI2	8	81.194	132.659	79.000	193.000
		ROI3	9	81.194	117.867	65.000	172.000
Cy3-Zein-PD	Fish 1	ROI1	10	81.194	91.437	55.000	151.000
		ROI2	11	81.194	94.512	53.000	139.000
		ROI3	12	81.194	87.717	47.000	135.000
	Fish 2	ROI1	13	81.194	74.502	43.201	113.042
		ROI2	14	81.194	64.652	41.997	94.904
		ROI3	15	81.194	70.812	45.897	99.127
	Fish 3	ROI1	16	81.194	60.094	34.000	109.000
		ROI2	17	81.194	60.980	32.000	109.000
		ROI3	18	81.194	59.348	31.000	89.000
Cy3	Fish 1	ROI1	19	81.194	62.726	35.000	114.000
		ROI2	20	81.194	57.201	34.000	128.000
		ROI3	21	81.194	56.187	32.000	101.000
	Fish 2	ROI1	22	81.194	28.786	16.000	49.000
		ROI2	23	81.194	29.873	18.000	49.000
		ROI3	24	81.194	32.153	19.000	49.000
	Fish 3	ROI1	25	81.194	64.654	39.000	113.000
		ROI2	26	81.194	63.757	36.000	112.000
		ROI3	27	81.194	64.276	38.000	114.000

Table S1. Measured fluorescence intensity of Cy3 for sum of 4 slices of dorsal aorta. Box Nr correlates with numbers in Figure S5.