

Supplementary Information

Glucospanlastics: Innovative antioxidant and anticancer ascorbyl-2-glucoside vesicles for striking topical performance of repurposed itraconazole

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Table S1: Stability study results after one, three months stored at 4°C for the prepared medicated conventional spanlastics and glucospanlastics as component.

For- mula code	PS (nm)			PDI			ZP (mV)		
	Fresh	After 1 month	After 3 month	Fresh	After 1 month	After 3 month	Fresh	After 1 month	After 3 month
P_{SP2}	223.8±0.9	225.6±0.2	230.7±0.4	0.50±0.05	0.45±0.14	0.42±0.02	-38.7±0.10	-37.5±2.42	-35.1±0.07
P_{SP3}	338.4±1.6	340.1±1.7	345.2±3.5	0.46±0.07	0.46±0.11	0.44±0.48	-39.2±1.41	-39.2±0.71	-34.2±0.91
P_{CG2}	286.0±4.3	290.2±0.9	295.4±0.7	0.41±0.06	0.38±0.02	0.40±0.17	-35.6±0.62	-35.2±0.52	-32.7±0.32
P_{CG3}	414.0±9.4	420.1±4.2	425.3±4.1	0.49±0.07	0.51±0.41	0.46±0.03	-38.2±0.21	-38.1±1.31	-32.2±0.42
P_{CG5}	404.5±3.1	410.9±7.7	415.2±2.3	0.45±0.08	0.41±0.01	0.45±0.02	-31.9±0.35	-30.9±2.12	-27.3±0.67
P_{CG6}	430.3±6.4	435.2±3.7	438.3±1.5	0.44±0.04	0.49±0.05	0.50±0.01	-33.6±0.49	-33.6±0.78	-31.2±0.35
P_{CG8}	425.0±2.3	435.1±3.1	440.5±3.4	0.43±0.02	0.42±0.04	0.42±0.32	-30.8±0.32	-31.2±0.22	-22.5±0.48
P_{CG9}	454.4±7.2	460.7±1.9	466.3±2.8	0.48±0.03	0.53±0.35	0.53±0.24	-32.8±1.55	-36.4±0.04	-30.1±0.05

For- mula code	EE (%)			DL (%)		
	Fresh	After 1 month	After 3 month	Fresh	After 1 month	After 3 month
P_{SP2}	88.2±0.10	87.5±0.45	85.5±0.12	4.91±0.21	4.02±0.10	4.10±0.21
P_{SP3}	60.2±1.30	59.4±0.14	59.4±0.24	4.83±0.34	4.42±0.21	4.42±0.31
P_{CG2}	99.4±1.02	98.2±2.11	97.2±0.32	4.23±0.02	4.23±0.04	4.01±0.02
P_{CG3}	97.8±0.81	97.81±1.2	97.5±1.02	8.49±0.81	8.31±0.42	8.21±0.21
P_{CG5}	98.8±0.64	98.4±0.32	97.8±0.54	4.20±0.26	4.11 ±0.31	3.91±0.11
P_{CG6}	96.4±0.52	96.3±0.42	95.3±0.21	8.20±0.04	8.12±0.17	8.11±0.31
P_{CG8}	97.2±0.32	96.2±0.21	96.4±0.41	4.32±0.07	3.92 ±0.52	4.01±0.02
P_{CG9}	95.9±0.41	95.4±0.94	95.2±0.74	8.41±0.14	8.02±0.01	8.23±0.12

PS: particle size, PDI: polydispersity index, ZP: zeta-potential, EE: entrapment efficiency, DL: drug loading.

-Psp2: conventional spanlastics containing 10 mg ITZ.

-Psp3: conventional spanlastics containing 20 mg ITZ.

-PCG2: ITZ-glucospanlastics containing 10 mg AA-2G and 10 mg ITZ.

-PCG6: ITZ-glucospanlastics containing 20 mg AA-2G and 20 mg ITZ.

-PCG3: ITZ-glucospanlastics containing 10 mg AA-2G and 20 mg ITZ.

-PCG8: ITZ-glucospanlastics containing 30 mg AA-2G and 10 mg ITZ.

-PCG5: ITZ-glucospanlastics containing 20 mg AA-2G and 10 mg ITZ.

-PCG9: ITZ-glucospanlastics containing 30 mg AA-2G and 20 mg ITZ.

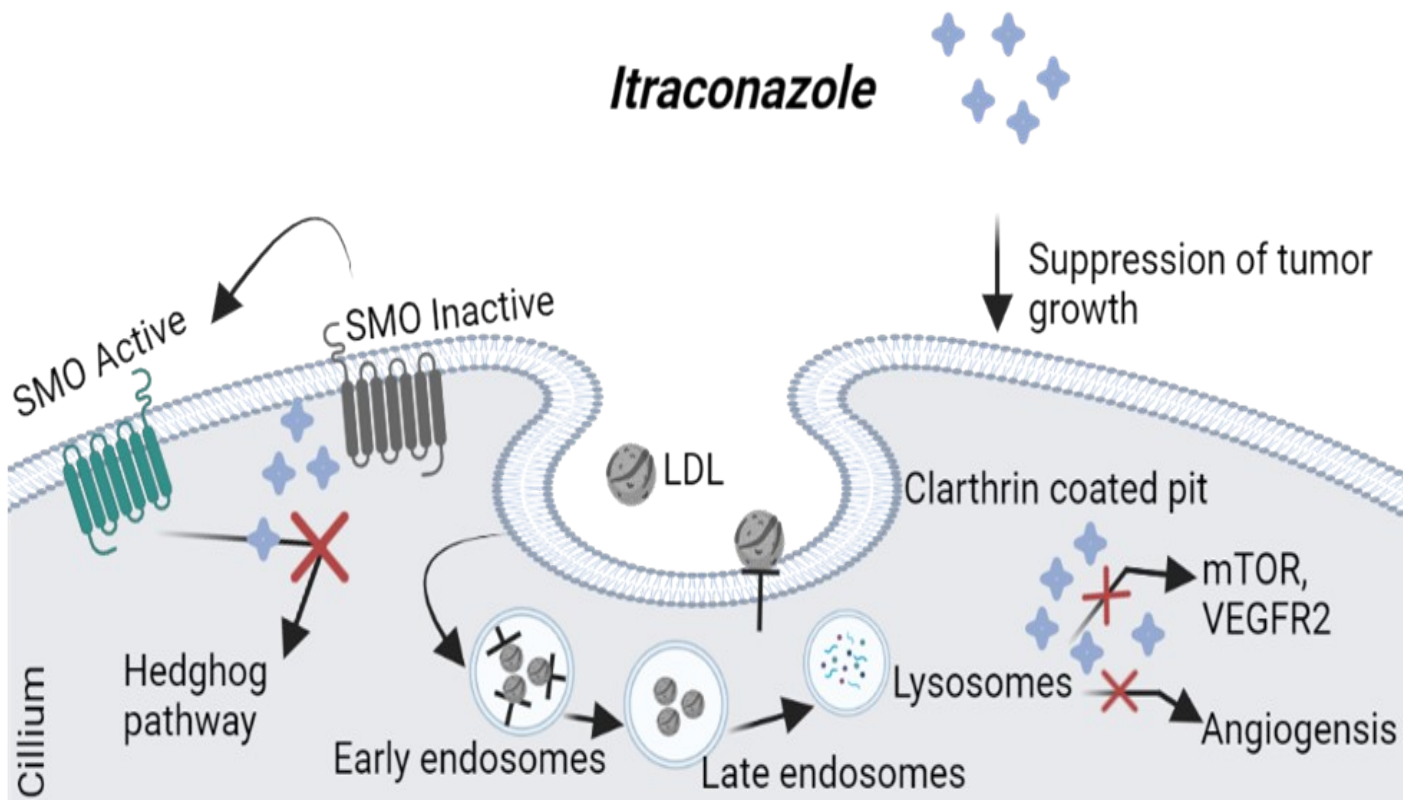


Figure S1: Schematic diagram illustrating mechanism of ITZ action as an anticancer drug created by Biorender.

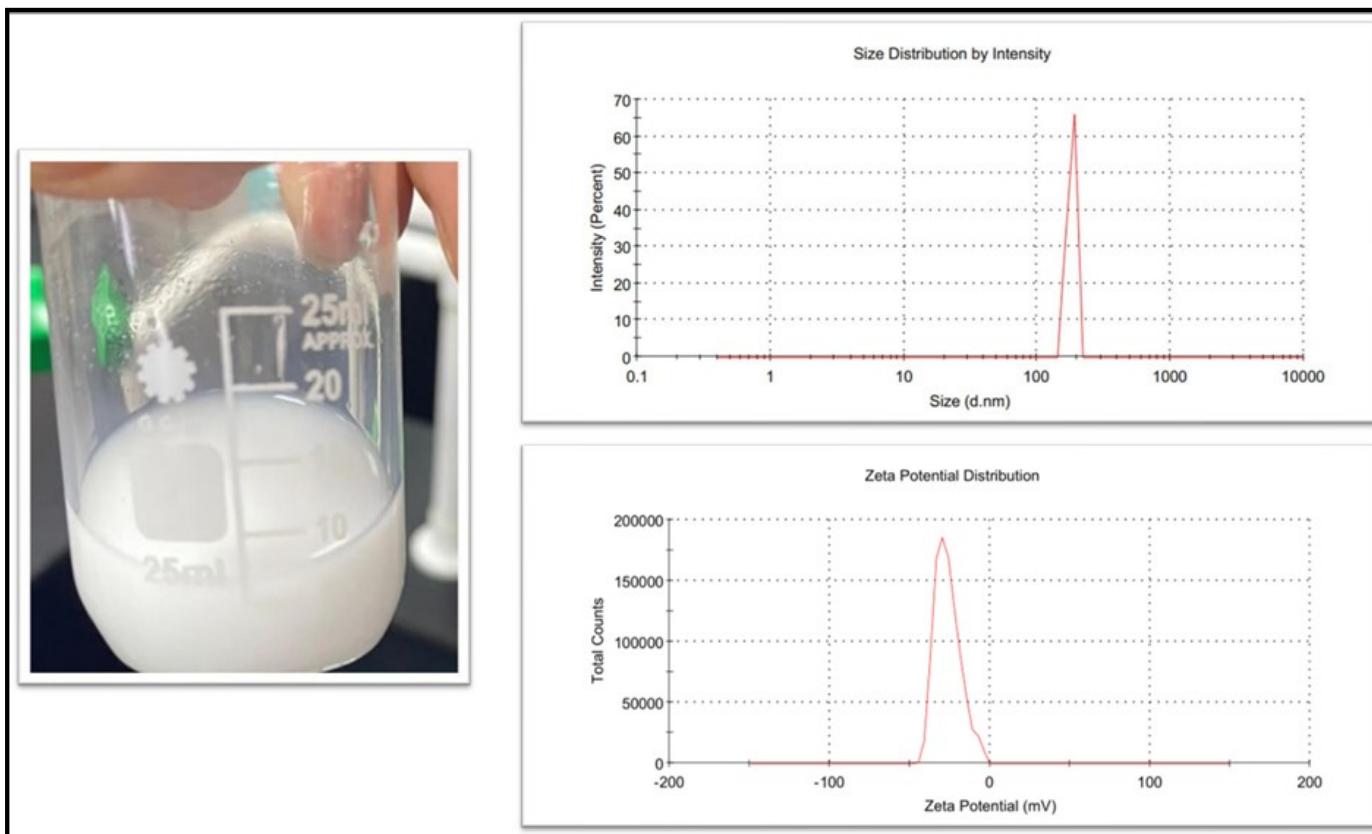


Figure S2: Glucospanlastics containing ascorbyl glucoside “AA-2G” as a component and their PS, PDI and ZP (P_{CG2}).