RSC Advances

Supplementary Information

for

Bisphenol analogues differentially affect human islet polypeptide amyloid formation

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Table S1. Aggregator Advisor[a] prediction and DLS measurements of tested bisphenol analogue

Compounds	cLogP[b]	Similarity to previously reported aggregator b	DLS detection			
			0 h	1 h	2 h	24 h
BPA	3.4	71%	ND[c]	ND	ND	ND
BPB	3.4	/	ND	ND	ND	ND
BPF	2.9	/	ND	ND	ND	ND
BPS	1.8	/	ND	ND	ND	ND
BPAF	4.5	/	ND	ND	ND	ND
BPAP	4.6	71%	ND	ND	ND	ND
TBBPA	6.8	71%	ND	ND	ND	ND
TCBPA	6.3	/	ND	ND	BD	ND

[a] Aggregator Advisor is a free service to suggest molecules that aggregate or may aggregate under biochemical assay conditions (http://advisor.bkslab.org/).

[b] CLogP and Similarity to previously reported aggregator are calculated by Aggregator Advisor.

[c] "ND" means no aggregates detected by DLS after 24 h incubation (100 μM bisphenols incubate with 25 mM PBS Buffer, containing 50 mM NaCl, pH 7.4, 25℃).

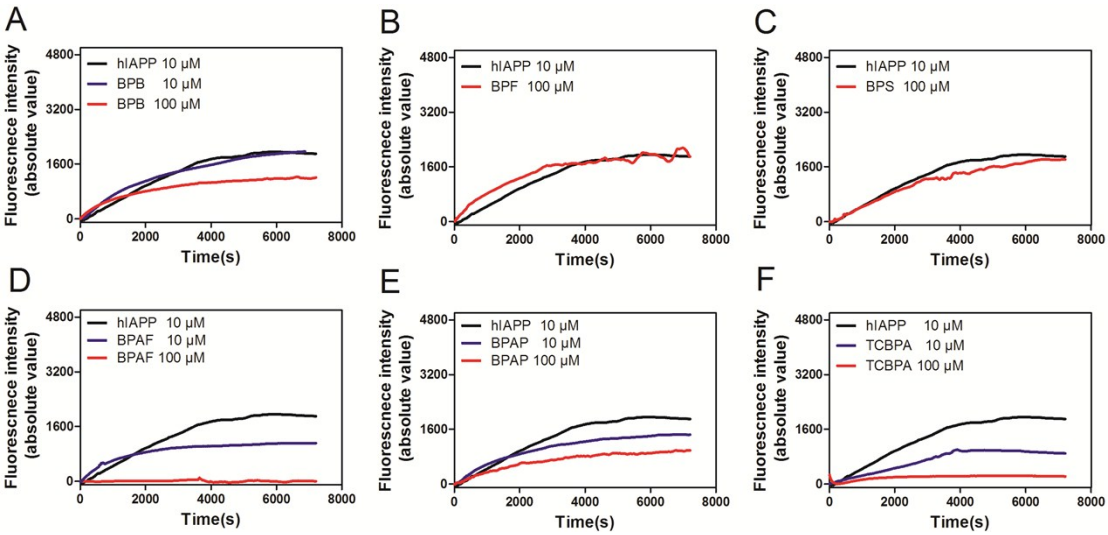

Figure S1. Effects of BPA analogues on hIAPP aggregation. ThT-fluoresence of hIAPP with different molar ratio of compounds: (A) BPB; (B) BPF; (C) BPS; (D) BPAF; (E) BPAP; (F) TCBPA.

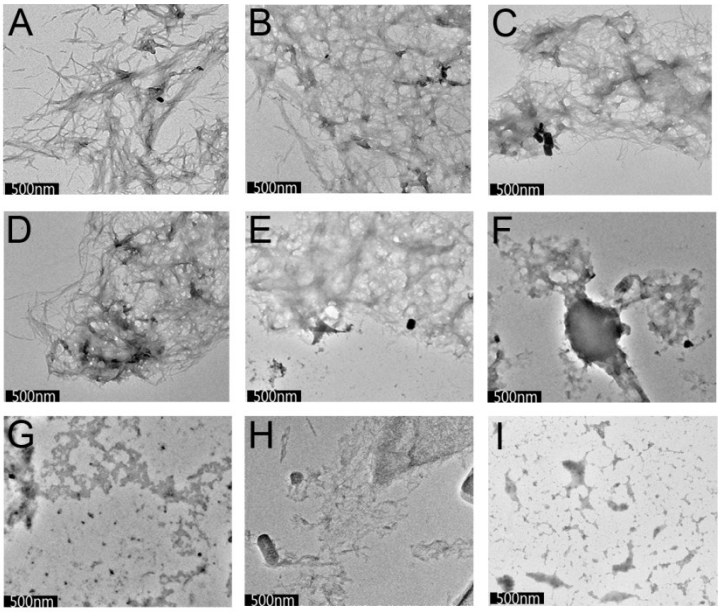

Figure S2. TEM images of hIAPP co-incubated with different compounds for 1 h. (A) hIAPP; (B) BPA; (C) BPB; (D) BPF; (E) BPS; (F) BPAF; (G) BPAP; (H) TBBPA; (I) TCBPA. Concentration of hIAPP and compounds was 10 μM and 100 μM, respectively**.** Scale bars represent 500 nm.

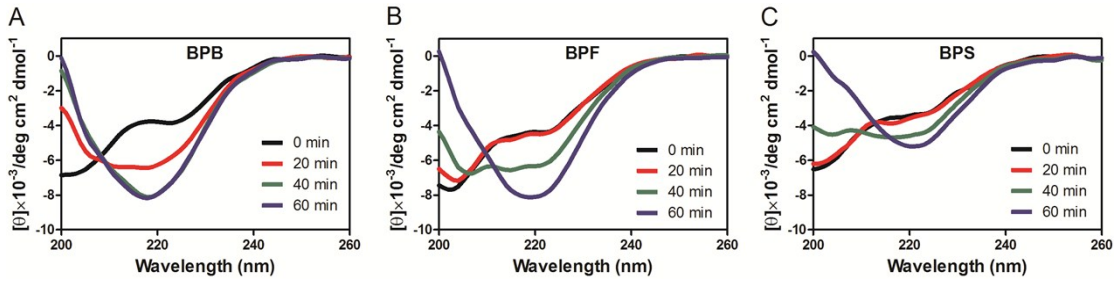

Figure S3. Far-UV CD spectra of hIAPP with different compounds. Concentration of hIAPP and compounds was 20 μM and 200 μM, respectively**.**

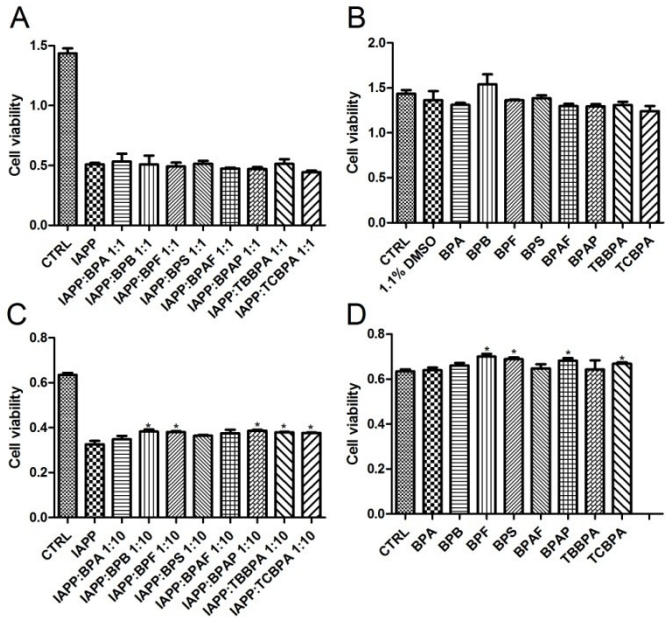

Figure S4. BxPC3 cell viabilities in the absence and presence of bisphenol analogues as determined by the MTT cell toxicity assay. hIAPP concentration was 1 μM. (A) Cell viability of hIAPP co-incubated with equimolar amount of bisphenol analogues; (B) Cell treated by bisphenol at the concentration of 1 μM; (C) Cell viability of hIAPP co-incubated with 10 μM of bisphenols; (D) Cell treated by bisphenol analogues at the concentration of 10 μM. *, $P < 0.05$.

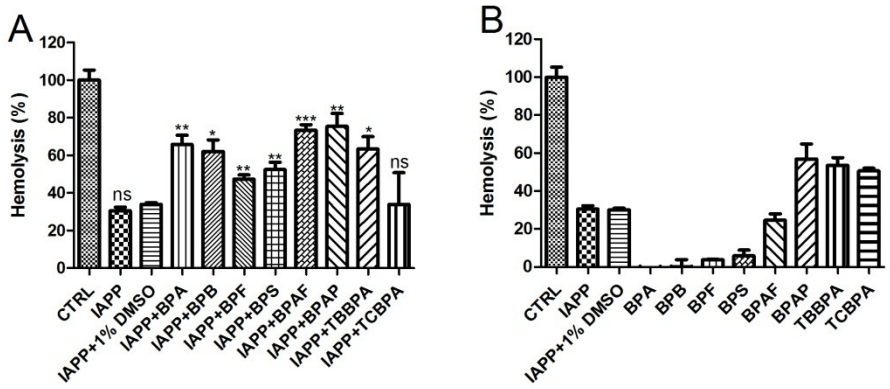

Figure S5. Haemolysis of erythrocytes induced by hIAPP amyloid and bisphenol analogues. Concentration of hIAPP and compounds was 10 μM and 100 μM, respectively**.** (A) Haemolysis of erythrocytes induced by hIAPP co-incubated with bisphenol analogues. (B) Haemolysis of erythrocytes induced by bisphenol analogues. *, $P < 0.05$; **, $P < 0.01$; ***, $P < 0.001$.