

Supplementary Materials: Comparison Evaluation of the Biological Effects of Sterigmatocystin and Aflatoxin B1 Utilizing SOS-Chromotest and a Novel Zebrafish (*Danio rerio*) Embryo Microinjection Method

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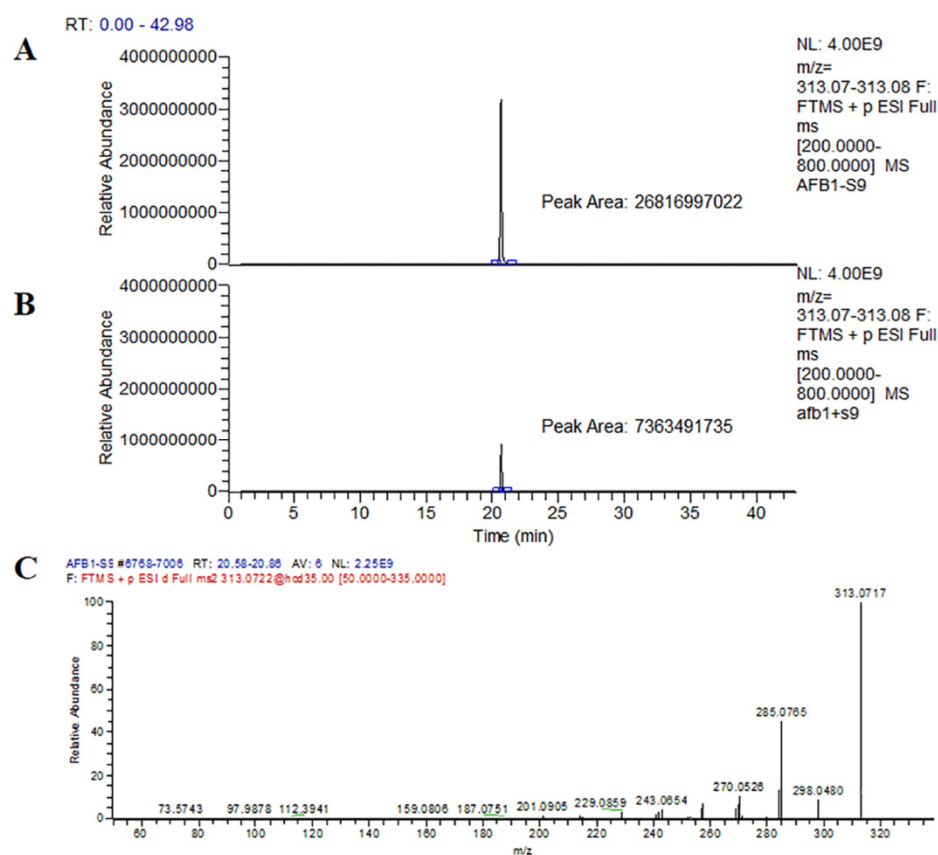


Figure S1. Extracted ion chromatogram of AFB1 eluted at $R_t = 20.7$ min in the AFB1-S9 (A) and FB1+S9 (B) samples as well as the representative MS/MS mass spectrum of AFB1 (C) recorded in the eluted peak.

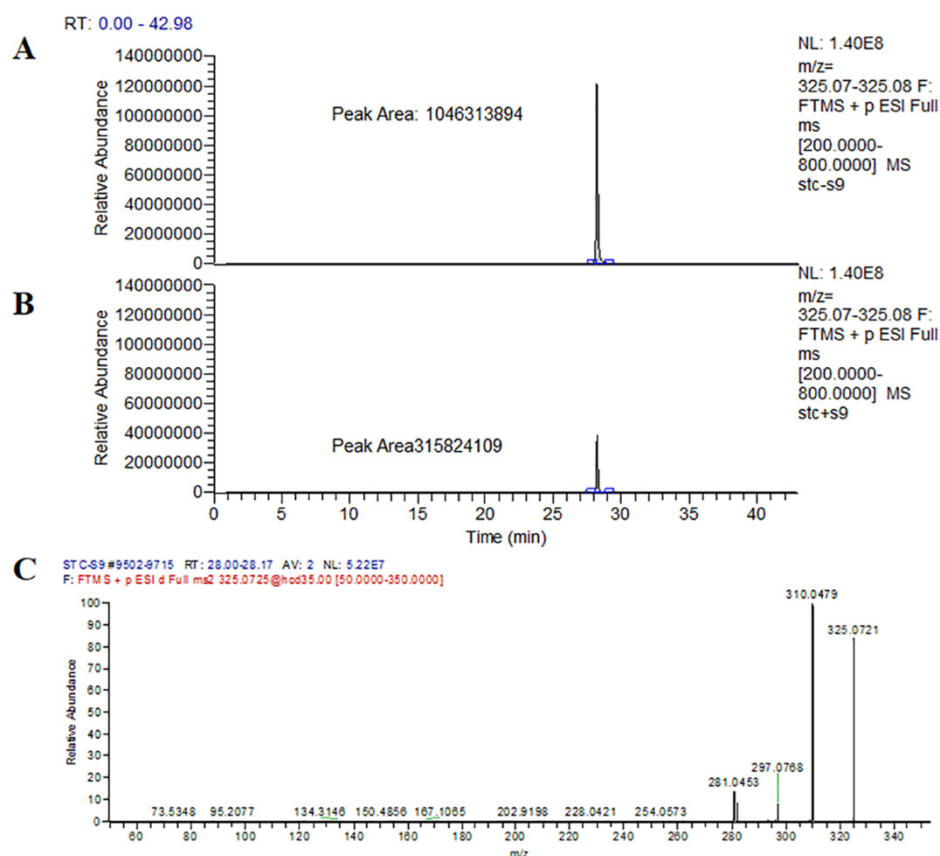


Figure S2. Extracted ion chromatogram of STC eluted at $R_t = 28.2$ min in the STC-S9 (A) and STC+S9 (B) samples as well as the representative MS/MS mass spectrum of STC (C) recorded in the eluted peak.

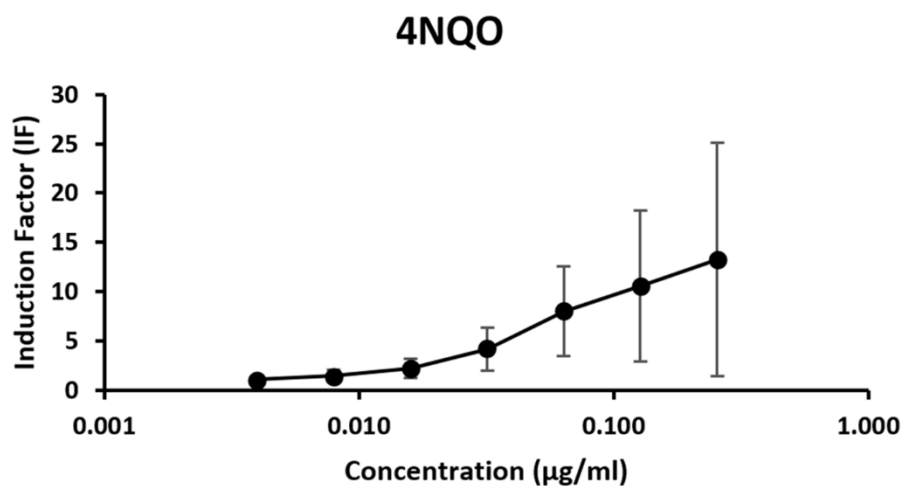


Figure S3. Dose-response curves of positive control 4-nitroquinoline-1-oxide (4NQO) used in SOS-Chromo test for determination of the correction factor. (Values represent mean \pm SD.).

Table S1. Effect of normal and metabolically activated (+S9) mycotoxin on survival of the embryos by 120 hours post-treatment. Different letters indicate significant differences ($p < 0.05$). (Values represent mean \pm SD.).

	Mortality (%)			
	AFB1	AFB1+S9	STC	STC+S9
0.074 nL	10.00 ^a (± 8.66)	5.00 ^a (± 7.07)	2.50 ^a (± 3.54)	47.50 ^b (± 3.54)
0.52 nL	13.75 ^a (± 1.77)	18.61 ^a (± 7.74)	5.00 ^a (± 7.07)	55.00 ^b (± 7.07)
1.02 nL	17.50 ^a (± 10.61)	38.42 ^a (± 2.23)	20.88 ^a (± 12.90)	70.72 ^b (± 1.01)
1.77 nL	21.67 ^a (± 18.93)	40.38 ^a (± 5.58)	20.56 ^a (± 13.36)	72.50 ^b (± 3.54)
4.17 nL	36.79 ^a (± 2.53)	46.67 ^a (± 12.58)	28.33 ^a (± 7.64)	77.50 ^b (± 3.54)

Table S2. Effect of normal and metabolically activated (+S9) mycotoxin on the appearance of distorted embryos compared to all surviving embryos by 120 hours post-treatment. Different letters indicate significant differences ($p < 0.05$). (Values represent mean \pm SD.).

	Deformed (%)			
	AFB1	AFB1+S9	STC	STC+S9
0.074 nL	32.22 (± 3.06)	11.00 (± 15.56)	17.50 (± 10.61)	9.09 (± 12.86)
0.52 nL	29.50 (± 17.68)	50.67 (± 42.74)	5.50 (± 7.78)	58.34 (± 58.92)
1.02 nL	22.00 ^a (± 15.56)	100.00 ^b (± 0.00)	6.00 ^a (± 0.00)	83.34 ^b (± 23.92)
1.77 nL	57.65 ^a (± 39.07)	100.00 ^b (± 0.00)	22.00 ^a (± 15.00)	100.00 ^b (± 0.00)
4.17 nL	100.00 ^a (± 0.00)	100.00 ^a (± 0.00)	25.33 ^b (± 1.45)	100.00 ^a (± 0.00)

Table S3. Effect of normal and metabolically activated (+S9) mycotoxin on DNA fragmentation compared to 120 hours post-treatment. Different letters indicate significant differences ($p < 0.05$). (Values represent mean \pm SD.).

	DNA double strand break			
	AFB1	AFB1+S9	STC	STC+S9
0.074 nL	168.94 ^a (± 1.85)	184.52 ^{ab} (± 3.27)	144.30 ^{ab} (± 1.69)	181.16 ^b (± 7.05)
0.52 nL	116.23 ^a (± 0.72)	167.14 ^b (± 0.59)	110.22 ^a (± 0.58)	225.04 ^c (± 2.59)
1.02 nL	121.69 ^a (± 0.47)	166.46 ^b (± 4.66)	124.95 ^a (± 2.96)	280.00 ^c (± 24.95)
1.77 nL	180.55 ^a (± 5.41)	130.07 ^b (± 4.85)	196.23 ^a (± 2.26)	285.29 ^c (± 3.14)
4.17 nL	168.06 ^a (± 7.68)	154.71 ^a (± 2.92)	136.43 ^a (± 0.66)	330.64 ^b (± 16.07)