

**Supplementary Table 1.** ODD induced by chronic sodium arsenite exposure assessed as nitron adducts using the IST method in TRL1215 cells (Figure 1,A).\*

Arsenic Exposure	Control	Arsenite		
		0.25 $\mu$ M	0.5 $\mu$ M	1.0 $\mu$ M
Weeks	% Control (95% CI)			
2	100.0 (86.1 to 113.9)	95.3 (74.3 to 116.2)	102.6 (82.7 to 122.4)	109.7 (91.0 to 128.4)
4	100.0 (50.0 to 150.0)	223.8 (98.1 to 349.6)	156.7 (115.2 to 198.2)	157.2 (113.4 to 201.1)
5	100.0 (55.0 to 145.0)	164.4 (96.4 to 232.4)	330.0 (302.6 to 357.4)	574.0 (525.8 to 622.2)
6	100.0 (87.1 to 112.9)	194.6 (114.3 to 274.9)	435.4 (313.3 to 557.5)	653.0 (368.0 to 937.9)
8	100.0 (73.7 to 126.3)	249.8 (178.1 to 321.6)	645.4 (475.1 to 815.7)	810.9 (507.7 to 1114.1)
10	100.0 (58.8 to 141.2)	273.0 (190.1 to 355.9)	630.0 (343.2 to 916.8)	781.1 (453.1 to 1109.2)
12	100.0 (88.2 to 111.8)	217.2 (160.3 to 274.0)	664.9 (412.1 to 917.7)	879.6 (680.3 to 1078.8)
14	100.0 (86.4 to 113.6)	130.3 (96.7 to 163.8)	760.3 (492.8 to 1027.8)	1035.2 (811.1 to 1259.3)
16	100.0 (86.0 to 114.0)	156.4 (100.3 to 212.5)	836.4 (368.0 to 1304.7)	1138.8 (796.7 to 1480.8)
17	100.0 (69.3 to 130.7)	176.7 (34.9 to 318.4)	353.8 (138.6 to 569.0)	775.1 (688.3 to 861.9)
18	100.0 (52.3 to 147.7)	259.1 (19.6 to 483.8)	243.5 (120.4 to 366.7)	62.1 (50.8 to 73.5)
20	100.0 (89.5 to 110.5)	81.1 (59.6 to 102.6)	81.7 (60.4 to 103.1)	99.8 (87.7 to 112.0)
22	100.0 (57.1 to 142.9)	111.8 (103.2 to 120.5)	123.6 (95.0 to 152.1)	137.4 (112.7 to 162.1)
24	100.0 (77.4 to 122.6)	112.6 (43.9 to 143.8)	88.0 (70.8 to 105.2)	65.0 (29.6 to 100.5)
26	100.0 (67.0 to 133.1)	93.0 (70.8 to 115.2)	93.4 (67.4 to 119.4)	87.8 (81.3 to 94.3)
28	100.0 (78.1 to 121.9)	86.3 (75.6 to 97.1)	113.9 (98.0 to 129.8)	88.8 (85.1 to 92.5)
30	100.0 (70.6 to 129.5)	79.8 (67.9 to 91.8)	107.4 (82.5 to 132.3)	102.7 (79.9 to 125.6)

\* ODD = oxidative DNA damage, IST = immuno-spin trapping. CI = confidence interval. Data shown represent the mean of nine samples in three independent experiments, and are plotted graphically in Figure 1,A.

**Supplementary Table 2.** ODD induced by chronic sodium arsenite exposure assessed as nitron adducts using the IST method in RWPE-1 cells (Figure 1,B).\*

Arsenic Exposure	Control	Arsenite		
		1.0 $\mu$ M	2.5 $\mu$ M	5.0 $\mu$ M
Weeks	% Control (95% CI)			
2	100.0 (81.9 to 118.1)	118.5 (101.6 to 135.5)	99.4 (96.4 to 102.4)	118.6 (101.2 to 136.0)
4	100.0 (78.6 to 121.4)	130.6 (104.3 to 156.9)	108.4 (95.5 to 121.3)	112.5 (95.4 to 129.3)
5	100.0 (80.0 to 120.0)	142.7 (119.3 to 166.2)	117.3 (100.5 to 134.2)	106.4 (97.5 to 115.3)
6	100.0 (84.0 to 116.0)	133.8 (107.0 to 160.6)	96.6 (83.9 to 109.4)	92.9 (80.6 to 105.2)
8	100.0 (87.7 to 112.3)	125.4 (104.9 to 145.9)	105.1 (78.2 to 132.0)	91.3 (60.8 to 121.8)
10	100.0 (68.8 to 131.2)	116.6 (91.8 to 141.4)	122.8 (79.0 to 166.6)	100.8 (62.1 to 139.5)
12	100.0 (51.8 to 148.2)	97.8 (64.8 to 130.9)	99.6 (73.0 to 126.2)	96.3 (79.0 to 113.6)
14	100.0 (44.4 to 155.6)	111.5 (57.1 to 165.9)	93.0 (54.1 to 131.8)	117.2 (77.1 to 157.3)
16	100.0 (58.8 to 141.2)	81.9 (71.1 to 92.7)	92.0 (77.8 to 106.1)	105.5 (73.0 to 137.0)
18	100.0 (80.8 to 119.2)	103.0 (84.3 to 121.8)	99.5 (77.8 to 121.3)	99.4 (82.4 to 116.4)
20	100.0 (61.3 to 138.7)	108.4 (92.8 to 124.1)	88.0 (69.4 to 106.6)	101.6 (80.7 to 122.4)
22	100.0 (58.9 to 141.1)	110.2 (93.7 to 126.7)	92.9 (70.5 to 115.3)	100.1 (79.8 to 120.4)
24	100.0 (63.2 to 136.8)	111.9 (97.2 to 126.6)	97.9 (74.8 to 121.0)	98.7 (82.5 to 114.9)
28	100.0 (72.4 to 127.6)	99.2 (43.6 to 154.8)	108.2 (51.9 to 164.5)	86.0 (69.6 to 102.4)
30	100.0 (85.6 to 114.4)	112.3 (93.6 to 131.1)	107.2 (85.6 to 128.8)	119.2 (102.8 to 135.6)

\* ODD = oxidative DNA damage, IST = immuno-spin trapping. CI = confidence interval. Data shown represent the mean of nine samples in three independent experiments, and are plotted graphically in Figure 1,B.

**Supplementary Table 3.** ODD induced by chronic sodium arsenite exposure assessed as nitron adducts using the IST method in UROtsa cells (Figure 4,A).\*

Arsenic Exposure	Control	Arsenite		
		0.25 $\mu$ M	0.5 $\mu$ M	1.0 $\mu$ M
Weeks	% Control (95% CI)			
2	100.0 (53.5 to 146.5)	85.7 (43.8 to 127.6)	86.6 (67.4 to 105.8)	87.7 (70.6 to 104.7)
4	100.0 (79.8 to 120.2)	90.1 (62.1 to 118.1)	93.5 (71.4 to 115.6)	106.2 (88.2 to 124.2)
6	100.0 (81.1 to 119.0)	103.7 (78.8 to 128.7)	109.2 (85.0 to 133.3)	110.8 (96.3 to 125.4)
8	100.0 (69.2 to 130.8)	109.4 (96.6 to 122.2)	124.8 (94.4 to 155.2)	105.0 (45.6 to 164.3)
10	100.0 (59.2 to 140.8)	119.6 (71.1 to 168.1)	132.0 (56.5 to 207.5)	88.3 (55.0 to 121.5)
12	100.0 (63.9 to 136.1)	111.3 (72.9 to 149.7)	113.4 (44.0 to 182.8)	84.6 (58.0 to 111.2)
14	100.0 (74.7 to 125.3)	98.9 (83.5 to 114.3)	119.2 (79.9 to 158.5)	88.4 (75.6 to 101.2)
16	100.0 (74.5 to 125.5)	102.2 (89.0 to 115.3)	125.4 (104.1 to 146.7)	102.7 (84.4 to 121.0)
18	100.0 (84.2 to 115.8)	97.3 (89.8 to 104.9)	109.1 (63.0 to 155.3)	95.3 (76.2 to 114.4)
20	100.0 (84.8 to 115.2)	102.9 (88.2 to 117.5)	114.1 (94.0 to 134.3)	121.1 (109.7 to 132.5)
22	100.0 (88.4 to 111.6)	100.1 (93.8 to 106.4)	101.1 (95.4 to 106.7)	104.1 (91.2 to 116.9)
24	100.0 (85.0 to 115.0)	97.9 (57.8 to 138.0)	105.3 (63.4 to 147.3)	95.7 (87.4 to 104.0)
26	100.0 (85.0 to 115.0)	110.5 (93.8 to 127.2)	92.8 (83.1 to 102.4)	91.7 (74.7 to 108.7)
28	100.0 (85.8 to 114.2)	91.7 (79.3 to 106.3)	94.4 (82.8 to 105.9)	112.1 (102.2 to 122.0)
30	100.0 (80.2 to 119.9)	92.9 (78.6 to 107.3)	87.6 (70.2 to 105.1)	87.0 (73.2 to 100.8)

\* ODD = oxidative DNA damage, IST = immuno-spin trapping. CI = confidence interval. Data shown represent the mean of nine samples in three independent experiments, and are plotted graphically in Figure 4,A.

**Supplementary Table 4.** ODD induced by chronic sodium arsenite exposure assessed as nitron adducts using the IST method in UROtsa/F35 cells (Figure 4,B).\*

Arsenic Exposure	Control	Arsenite		
		0.25 $\mu$ M	0.5 $\mu$ M	1.0 $\mu$ M
Weeks	% Control (95% CI)			
2	100.0 (76.4 to 123.6)	85.3 (48.9 to 121.7)	96.5 (88.7 to 104.4)	103.6 (91.1 to 116.0)
4	100.0 (68.9 to 131.2)	103.3 (86.8 to 119.7)	116.8 (108.6 to 125.1)	97.0 (58.3 to 135.7)
6	100.0 (72.9 to 127.1)	82.3 (61.9 to 102.6)	88.1(69.1 to 107.1)	87.1 (66.7 to 107.5)
8	100.0 (92.1 to 107.9)	122.8 (101.8 to 143.8)	157.0 (137.7 to 176.3)	194.2 (168.1 to 220.4)
10	100.0 (89.0 to 111.0)	201.4 (189.6 to 213.1)	192.3 (169.5 to 215.2)	181.8 (164.9 to 198.8)
12	100.0 (81.0 to 119.0)	163.1 (120.0 to 206.3)	193.7 (165.7 to 221.7)	216.6 (147.5 to 285.7)
14	100.0 (69.1 to 130.9)	163.3 (133.8 to 192.8)	170.2 (138.2 to 185.0)	220.8 (173.4 to 268.2)
16	100.0 (87.4 to 112.6)	126.0 (110.6 to 141.5)	146.3 (135.9 to 156.7)	225.2 (188.0 to 262.5)
18	100.0 (91.0 to 109.0)	121.8 (112.8 to 130.7)	154.7 (137.7 to 171.7)	208.2 (185.6 to 230.9)
20	100.0 (70.5 to 129.5)	139.3 (124.2 to 154.4)	153.0 (121.9 to 184.1)	213.3 (193.5 to 233.2)
22	100.0 (91.9 to 108.1)	117.9 (101.5 to 134.3)	157.7 (136.7 to 178.6)	192.6 (176.9 to 208.2)
24	100.0 (87.6 to 112.4)	118.3 (106.4 to 130.2)	142.0 (128.3 to 155.7)	192.3 (174.8 to 209.9)
26	100.0 (88.8 to 111.2)	101.0 (83.2 to 118.8)	137.1 (115.0 to 159.2)	170.7 (152.8 to 188.7)
28	100.0 (89.8 to 110.2)	93.3 (72.3 to 114.3)	96.0 (79.2 to 113.1)	113.9 (95.3 to 132.5)
30	100.0 (68.2 to 131.8)	94.3 (63.4 to 125.2)	106.7 (97.4 to 116.0)	100.3 (70.6 to 130.0)

\* ODD = oxidative DNA damage, IST = immuno-spin trapping. CI = confidence interval. Data shown represent the mean of nine samples in three independent experiments, and are plotted graphically in Figure 4,B.