

Electronic Supplementary Information

Synthesis and biological evaluation of thiolate gold(I) complexes as thioredoxin reductases (TrxRs) and glutathione reductase (GR) inhibitors

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Table S1. One-way ANOVA statistical analysis on the IC₅₀ data of A549 cell line.

Ordinary one-way ANOVA Multiple comparisons							
5	Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Significant?	Summary	Adjusted P Value	
6	A vs. 1a	9.370	5.336 to 13.40	Yes	****	<0.0001	A-B
7	A vs. 1b	14.41	10.38 to 18.44	Yes	****	<0.0001	A-C
8	A vs. 1c	7.600	3.566 to 11.63	Yes	***	0.0002	A-D
9	A vs. 1d	3.990	-0.04365 to 8.024	No	ns	0.0534	A-E
10	A vs. Cisplatin	16.76	12.73 to 20.79	Yes	****	<0.0001	A-F
11	A vs. Auranofin	15.59	11.56 to 19.62	Yes	****	<0.0001	A-G
12	1a vs. 1b	5.040	1.006 to 9.074	Yes	*	0.0107	B-C
13	1a vs. 1c	-1.770	-5.804 to 2.264	No	ns	0.7417	B-D
14	1a vs. 1d	-5.380	-9.414 to -1.346	Yes	**	0.0063	B-E
15	1a vs. Cisplatin	7.390	3.356 to 11.42	Yes	***	0.0003	B-F
16	1a vs. Auranofin	6.220	2.186 to 10.25	Yes	**	0.0018	B-G
17	1b vs. 1c	-6.810	-10.84 to -2.776	Yes	***	0.0007	C-D
18	1b vs. 1d	-10.42	-14.45 to -6.386	Yes	****	<0.0001	C-E
19	1b vs. Cisplatin	2.350	-1.684 to 6.384	No	ns	0.4611	C-F
20	1b vs. Auranofin	1.180	-2.854 to 5.214	No	ns	0.9460	C-G
21	1c vs. 1d	-3.610	-7.644 to 0.4236	No	ns	0.0936	D-E
22	1c vs. Cisplatin	9.160	5.126 to 13.19	Yes	****	<0.0001	D-F
23	1c vs. Auranofin	7.990	3.956 to 12.02	Yes	***	0.0001	D-G
24	1d vs. Cisplatin	12.77	8.736 to 16.80	Yes	****	<0.0001	E-F
25	1d vs. Auranofin	11.60	7.566 to 15.63	Yes	****	<0.0001	E-G
26	Cisplatin vs. Auranofin	-1.170	-5.204 to 2.864	No	ns	0.9480	F-G

Table S2. One-way ANOVA statistical analysis on the IC₅₀ data of SKOV3 cell line.

Ordinary one-way ANOVA Multiple comparisons							
5	Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Significant?	Summary	Adjusted P Value	
6	A vs. 1a	9.300	6.653 to 11.95	Yes	****	<0.0001	A-B
7	A vs. 1b	9.730	7.083 to 12.38	Yes	****	<0.0001	A-C
8	A vs. 1c	1.940	-0.7067 to 4.587	No	ns	0.2295	A-D
9	A vs. 1d	1.780	-0.8667 to 4.427	No	ns	0.3099	A-E
10	A vs. Cisplatin	2.860	0.2133 to 5.507	Yes	*	0.0305	A-F
11	A vs. Auranofin	10.87	8.223 to 13.52	Yes	****	<0.0001	A-G
12	1a vs. 1b	0.4300	-2.217 to 3.077	No	ns	0.9972	B-C
13	1a vs. 1c	-7.360	-10.01 to -4.713	Yes	****	<0.0001	B-D
14	1a vs. 1d	-7.520	-10.17 to -4.873	Yes	****	<0.0001	B-E
15	1a vs. Cisplatin	-6.440	-9.087 to -3.793	Yes	****	<0.0001	B-F
16	1a vs. Auranofin	1.570	-1.077 to 4.217	No	ns	0.4415	B-G
17	1b vs. 1c	-7.790	-10.44 to -5.143	Yes	****	<0.0001	C-D
18	1b vs. 1d	-7.950	-10.60 to -5.303	Yes	****	<0.0001	C-E
19	1b vs. Cisplatin	-6.870	-9.517 to -4.223	Yes	****	<0.0001	C-F
20	1b vs. Auranofin	1.140	-1.507 to 3.787	No	ns	0.7566	C-G
21	1c vs. 1d	-0.1600	-2.807 to 2.487	No	ns	>0.9999	D-E
22	1c vs. Cisplatin	0.9200	-1.727 to 3.567	No	ns	0.8880	D-F
23	1c vs. Auranofin	8.930	6.283 to 11.58	Yes	****	<0.0001	D-G
24	1d vs. Cisplatin	1.080	-1.567 to 3.727	No	ns	0.7968	E-F
25	1d vs. Auranofin	9.090	6.443 to 11.74	Yes	****	<0.0001	E-G
26	Cisplatin vs. Auranofin	8.010	5.363 to 10.66	Yes	****	<0.0001	F-G

Table S3. One-way ANOVA statistical analysis on the IC₅₀ data of MCF-7 cell line.

Ordinary one-way ANOVA Multiple comparisons							
		Mean Diff.	95.00% CI of diff.	Significant?	Summary	Adjusted P Value	
5	Tukey's multiple comparisons test						
6	Avs. 1a	5.330	2.696 to 7.964	Yes	***	0.0001	A-B
7	Avs. 1b	7.190	4.556 to 9.824	Yes	****	<0.0001	A-C
8	Avs. 1c	6.510	3.876 to 9.144	Yes	****	<0.0001	A-D
9	Avs. 1d	4.640	2.006 to 7.274	Yes	***	0.0005	A-E
10	Avs. cisplatin	2.050	-0.5845 to 4.684	No	ns	0.1809	A-F
11	Avs. Auranofin	6.360	3.726 to 8.994	Yes	****	<0.0001	A-G
12	1a vs. 1b	1.860	-0.7745 to 4.494	No	ns	0.2632	B-C
13	1a vs. 1c	1.180	-1.454 to 3.814	No	ns	0.7246	B-D
14	1a vs. 1d	-0.6900	-3.324 to 1.944	No	ns	0.9676	B-E
15	1a vs. cisplatin	-3.280	-5.914 to -0.6455	Yes	*	0.0110	B-F
16	1a vs. Auranofin	1.030	-1.604 to 3.664	No	ns	0.8251	B-G
17	1b vs. 1c	-0.6800	-3.314 to 1.954	No	ns	0.9697	C-D
18	1b vs. 1d	-2.550	-5.184 to 0.08447	No	ns	0.0607	C-E
19	1b vs. cisplatin	-5.140	-7.774 to -2.506	Yes	***	0.0002	C-F
20	1b vs. Auranofin	-0.8300	-3.464 to 1.804	No	ns	0.9253	C-G
21	1c vs. 1d	-1.870	-4.504 to 0.7645	No	ns	0.2582	D-E
22	1c vs. cisplatin	-4.460	-7.094 to -1.826	Yes	***	0.0007	D-F
23	1c vs. Auranofin	-0.1500	-2.784 to 2.484	No	ns	>0.9999	D-G
24	1d vs. cisplatin	-2.590	-5.224 to 0.04447	No	ns	0.0554	E-F
25	1d vs. Auranofin	1.720	-0.9145 to 4.354	No	ns	0.3398	E-G
26	cisplatin vs. Auranofin	4.310	1.676 to 6.944	Yes	**	0.0010	F-G

Table S4. One-way ANOVA statistical analysis on the IC₅₀ data of Hela cell line.

Ordinary one-way ANOVA Multiple comparisons							
		Mean Diff.	95.00% CI of diff.	Significant?	Summary	Adjusted P Value	
5	Tukey's multiple comparisons test						
6	A vs. 1a	6.020	3.958 to 8.082	Yes	****	<0.0001	A-B
7	A vs. 1b	8.920	6.858 to 10.98	Yes	****	<0.0001	A-C
8	A vs. 1c	6.040	3.978 to 8.102	Yes	****	<0.0001	A-D
9	A vs. 1d	2.700	0.6379 to 4.762	Yes	**	0.0074	A-E
10	A vs. Cisplatin	-21.26	-23.32 to -19.20	Yes	****	<0.0001	A-F
11	A vs. Auranofin	8.990	6.928 to 11.05	Yes	****	<0.0001	A-G
12	1a vs. 1b	2.900	0.8379 to 4.962	Yes	**	0.0040	B-C
13	1a vs. 1c	0.02000	-2.042 to 2.082	No	ns	>0.9999	B-D
14	1a vs. 1d	-3.320	-5.382 to -1.258	Yes	**	0.0012	B-E
15	1a vs. Cisplatin	-27.28	-29.34 to -25.22	Yes	****	<0.0001	B-F
16	1a vs. Auranofin	2.970	0.9079 to 5.032	Yes	**	0.0033	B-G
17	1b vs. 1c	-2.880	-4.942 to -0.8179	Yes	**	0.0043	C-D
18	1b vs. 1d	-6.220	-8.282 to -4.158	Yes	****	<0.0001	C-E
19	1b vs. Cisplatin	-30.18	-32.24 to -28.12	Yes	****	<0.0001	C-F
20	1b vs. Auranofin	0.07000	-1.992 to 2.132	No	ns	>0.9999	C-G
21	1c vs. 1d	-3.340	-5.402 to -1.278	Yes	**	0.0011	D-E
22	1c vs. Cisplatin	-27.30	-29.36 to -25.24	Yes	****	<0.0001	D-F
23	1c vs. Auranofin	2.950	0.8879 to 5.012	Yes	**	0.0035	D-G
24	1d vs. Cisplatin	-23.96	-26.02 to -21.90	Yes	****	<0.0001	E-F
25	1d vs. Auranofin	6.290	4.228 to 8.352	Yes	****	<0.0001	E-G
26	Cisplatin vs. Auranofin	30.25	28.19 to 32.31	Yes	****	<0.0001	F-G

Table S5. One-way ANOVA statistical analysis on the IC₅₀ data of SW1116 cell line.

Ordinary one-way ANOVA Multiple comparisons							
▲							
5	Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Significant?	Summary	Adjusted P Value	
6	Avs. 1a	8.130	5.692 to 10.57	Yes	****	<0.0001	A-B
7	Avs. 1b	11.88	9.442 to 14.32	Yes	****	<0.0001	A-C
8	Avs. 1c	5.380	2.942 to 7.818	Yes	****	<0.0001	A-D
9	Avs. 1d	2.980	0.5423 to 5.418	Yes	*	0.0126	A-E
10	Avs. cisplatin	-26.50	-28.94 to -24.06	Yes	****	<0.0001	A-F
11	Avs. Auranofin	10.99	8.552 to 13.43	Yes	****	<0.0001	A-G
12	1a vs. 1b	3.750	1.312 to 6.188	Yes	**	0.0018	B-C
13	1a vs. 1c	-2.750	-5.188 to -0.3123	Yes	*	0.0227	B-D
14	1a vs. 1d	-5.150	-7.588 to -2.712	Yes	****	<0.0001	B-E
15	1a vs. cisplatin	-34.63	-37.07 to -32.19	Yes	****	<0.0001	B-F
16	1a vs. Auranofin	2.860	0.4223 to 5.298	Yes	*	0.0172	B-G
17	1b vs. 1c	-6.500	-8.938 to -4.062	Yes	****	<0.0001	C-D
18	1b vs. 1d	-8.900	-11.34 to -6.462	Yes	****	<0.0001	C-E
19	1b vs. cisplatin	-38.38	-40.82 to -35.94	Yes	****	<0.0001	C-F
20	1b vs. Auranofin	-0.8900	-3.328 to 1.548	No	ns	0.8643	C-G
21	1c vs. 1d	-2.400	-4.838 to 0.03773	No	ns	0.0549	D-E
22	1c vs. cisplatin	-31.88	-34.32 to -29.44	Yes	****	<0.0001	D-F
23	1c vs. Auranofin	5.610	3.172 to 8.048	Yes	****	<0.0001	D-G
24	1d vs. cisplatin	-29.48	-31.92 to -27.04	Yes	****	<0.0001	E-F
25	1d vs. Auranofin	8.010	5.572 to 10.45	Yes	****	<0.0001	E-G
26	cisplatin vs. Auranofin	37.49	35.05 to 39.93	Yes	****	<0.0001	F-G

Table S6. One-way ANOVA statistical analysis on the IC₅₀ data of MCF-12A cell line.

Ordinary one-way ANOVA Multiple comparisons							
▲							
5	Tukey's multiple comparisons test	Mean Diff.	95.00% CI of diff.	Significant?	Summary	Adjusted P Value	
6	Avs. 1a	30.66	26.04 to 35.28	Yes	****	<0.0001	A-B
7	Avs. 1b	44.14	39.52 to 48.76	Yes	****	<0.0001	A-C
8	Avs. 1c	25.78	21.16 to 30.40	Yes	****	<0.0001	A-D
9	Avs. 1d	36.94	32.32 to 41.56	Yes	****	<0.0001	A-E
10	Avs. cisplatin	56.70	52.08 to 61.32	Yes	****	<0.0001	A-F
11	Avs. Auranofin	40.17	35.55 to 44.79	Yes	****	<0.0001	A-G
12	1a vs. 1b	13.48	8.862 to 18.10	Yes	****	<0.0001	B-C
13	1a vs. 1c	-4.880	-9.498 to -0.2621	Yes	*	0.0353	B-D
14	1a vs. 1d	6.280	1.662 to 10.90	Yes	**	0.0054	B-E
15	1a vs. cisplatin	26.04	21.42 to 30.66	Yes	****	<0.0001	B-F
16	1a vs. Auranofin	9.510	4.892 to 14.13	Yes	****	<0.0001	B-G
17	1b vs. 1c	-18.36	-22.98 to -13.74	Yes	****	<0.0001	C-D
18	1b vs. 1d	-7.200	-11.82 to -2.582	Yes	**	0.0016	C-E
19	1b vs. cisplatin	12.56	7.942 to 17.18	Yes	****	<0.0001	C-F
20	1b vs. Auranofin	-3.970	-8.588 to 0.6479	No	ns	0.1148	C-G
21	1c vs. 1d	11.16	6.542 to 15.78	Yes	****	<0.0001	D-E
22	1c vs. cisplatin	30.92	26.30 to 35.54	Yes	****	<0.0001	D-F
23	1c vs. Auranofin	14.39	9.772 to 19.01	Yes	****	<0.0001	D-G
24	1d vs. cisplatin	19.76	15.14 to 24.38	Yes	****	<0.0001	E-F
25	1d vs. Auranofin	3.230	-1.388 to 7.848	No	ns	0.2719	E-G
26	cisplatin vs. Auranofin	-16.53	-21.15 to -11.91	Yes	****	<0.0001	F-G