Supporting Information

A novel histone acetyltransferase inhibitor modulating Gcn5 network: cyclopentylidene-[4-(4'-chlorophenyl)thiazol-2-yl)hydrazone.

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Table 2. ^{1}H NMR data of derivatives **1-18**

comp	^{1}H NMR
1^A	1.67-1.69 (m, 2H, c-CH_2), 1.70-1.72 (m, 2H, c-CH_2), 2.50-2.52 (m, 2H, c-CH_2), 2.63 (s, 2H, c-CH_2), 3.83 (s, 3H, 4'-OCH_3Ar), 6.59 (s, 1H, C_5H-thiaz.), 6.96-6.98 (d, J_o = 7.9 Hz, 2H, Ar), 7.63-7.65 (d, J_o = 7.9 Hz, 2H, Ar), 12.13 (bs, 1H, NH, D_2O exch.), 13.78 (bs, 1H, NH, D_2O exch.)
2^A	1.84-1.87 (m, 2H, c-CH_2), 1.93-1.96 (m, 2H, c-CH_2), 2.52-2.55 (m, 2H, c-CH_2), 2.63-2.66 (m, 2H, c-CH_2), 6.70 (s, 1H, C_5H-thiaz.), 7.45-7.46 (d, J_o = 8.0 Hz, 2H, Ar), 7.65-7.67 (d, J_o = 8.0 Hz, 2H, Ar), 12.17 (bs, 1H, NH, D_2O exch.), 13.90 (bs, 1H, NH, D_2O exch.)
3^A	1.19-1.21 (d, J = 6.4 Hz, 3H, CH_3,), 1.49 (s, 1H, c-CH_2), 1.78 (s, 1H, c-CH_2), 2.01-2.09 (m, 2H, c-CH_2), 2.61-2.63 (m, 2H, c-CH_2), 2.70 (s, 1H, c-CH_2), 3.85 (s, 3H, 4'-OCH_3Ar), 6.52 (s, 1H, C_5H-thiaz.), 6.98-7.00 (d, J_0 = 8.8 Hz, 2H, Ar), 7.64-7.66 (d, J_0 = 8.1 Hz, 2H, Ar), 12.17 (s, 1H, NH, D_2O exch.), 13.65 (s, 1H, NH, D_2O exch.)
4^B	1.10-1.11 (d, J = 6.6 Hz, 3H, CH_3,), 1.53-1.55 (m, 1H, c-CH_2), 1.69-1.72 (m, 2H, c-CH_2), 1.96-1.98 (m, 2H, c-CH_2), 2.39-2.42 (m, 1H, c-CH_2), 7.29 (s, 1H, C_5H-thiaz.), 7.43-7.45 (d, J_0 = 8.0 Hz, 2H, Ar), 7.83-7.85 (d, J_0 = 8.0 Hz, 2H, Ar), 10.55 (bs, 1H, NH, D_2O exch.)
5^A	1.09-1.10 (d, J = 6.6 Hz, 3H, CH_3,), 1.99-2.39 (m, 4H, c-CH_2), 2.45-2.96 (m, 3H, c-CH_2), 3.85 (s, 3H, 4'-OCH_3Ar), 6.51 (s, 1H, C_5H-thiaz.), 6.98-7.00 (d, J_o = 7.9 Hz, 2H, Ar), 7.64-7.66 (d, J_o = 8.0 Hz, 2H, Ar), 12.05 (bs, 1H, NH, D_2O exch.), 13.61 (bs, 1H, NH, D_2O exch.)
6^B	1.00-1.01 (d, J = 6.0 Hz, 3H, CH_3,), 1.10-1.45 (m, 2H, c-CH_2), 1.80-2.08 (m, 3H, c-CH_2), 2.29 (s, 1H, c-CH_2), 7.28 (s, 1H, C_5H-thiaz.), 7.43-7.45 (d, J_0 = 8.0 Hz, 2H, Ar), 7.83-7.85 (d, J_0 = 8.0 Hz, 2H, Ar), 10.58 (bs, 1H, NH, D_2O exch.)
7^A	1.61-1.67 (m, 3H, c-CH_2), 1.68-1.78 (m, 3H, c-CH_2), 2.41-2.43 (m, 2H, c-CH_2), 2.61-2.64 (m, 2H, c-CH_2), 3.84 (s, 3H, 4'-OCH_3Ar), 6.51-6.54 (m, 1H, C_5H-thiaz.), 6.99-7.00 (d, J_o = 8.1 Hz, 2H, Ar), 7.64-7.67 (d, J_o = 7.9 Hz, 2H, Ar), 12.44 (bs, 1H, NH, D_2O exch.), 13.60 (bs, 1H, NH, D_2O exch.)
8^A	1.66-1.71 (m, 3H, c-CH_2), 1.73-1.79 (m, 3H, c-CH_2), 2.40-2.42 (m, 2H, c-CH_2), 2.64-2.65 (m, 2H, c-CH_2), 6.60 (s, 1H, C_5H-thiaz.), 7.47-7.49 (d, J_o = 8.1 Hz, 2H, Ar), 7.66-7.68 (d, J_o = 8.0 Hz, 2H, Ar), 12.49 (s, 1H, NH, D_2O exch.), 13.20 (s, 1H, NH, D_2O exch.)
9^A	1.11-1.12 (d, J = 6.3 Hz, 3H, CH_3,), 1.17-1.20 (m, 1H, c-CH_2), 1.48-1.61 (m, 2H, c-CH_2), 1.78-1.80 (m, 1H, c-CH_2), 1.95-1.99 (m, 2H, c-CH_2), 2.19-2.21 (m, 1H, c-CH_2), 2.37-2.40 (m, 1H, c-CH_2), 2.98-3.01 (m, 1H, c-CH_2), 3.81 (s, 3H, 4'-OCH_3Ar), 6.94 (s, 1H, C_5H-thiaz.), 7.53-7.55 (d, J_0 = 8.4 Hz, 2H, Ar), 7.60-7.62 (d, J_0 = 8.3 Hz, 2H, Ar), 12.37 (s, 1H, NH, D_2O exch)
10^A	1.15-1.17 (d, J = 6.5 Hz, 3H, CH_3), 1.20-1.22 (m, 2H, c-CH_2), 1.88 (s, 1H, c-CH_2), 1.98-1.99 (m, 2H, c-CH_2), 2.07 (s, 1H, c-CH_2), 2.45-2.46 (m, 2H, c-CH_2), 2.99-3.01 (m, 1H, c-CH_2), 6.68 (s, 1H, C_5H-thiaz.), 7.46-7.48 (d, J_o = 8.5 Hz, 2H, Ar), 7.66-7.68 (d, J_o = 8.5 Hz, 2H, Ar), 12.50 (s, 1H, NH, D_2O exch.)
11^A	1.06-1.07 (d, J = 6.2 Hz, 3H, CH_3), 1.20-1.21 (m, 1H, c-CH_2), 1.81-1.95 (m, 6H, c-CH_2), 2.52-2.53 (t, 1H, c-CH_2), 3.05-3.06 (m, 1H, c-CH_2), 3.85 (s, 3H, 4'-OCH_3Ar), 6.52 (s, 1H, C_5H-thiaz.), 6.99-7.01 (d, J_o = 8.0 Hz, 2H, Ar), 7.65-7.67 (d, J_o = 8.1 Hz, 2H, Ar), 12.44 (s, 1H, NH, D_2O exch.), 13.58 (s, 1H, NH, D_2O exch.)
12^A	1.04-1.05 (d, J = 6.5 Hz, 3H, CH_3), 1.25-1.26 (m, 1H, c-CH_2), 1.69-1.71 (m, 1H, c-CH_2), 1.98-1.99 (m, 2H, c-CH_2), 2.20-2.21 (m, 2H, c-CH_2), 2.50-2.52 (m, 2H, c-CH_2), 2.95-2.96 (m, 1H, c-CH_2), 6.68 (s, 1H, C_5H-thiaz.), 7.47-7.49 (d, J_o = 8.3 Hz, 2H, Ar), 7.67-7.69 (d, J_o = 8.2 Hz, 2H, Ar), 12.50 (s, 1H, NH, D_2O exch.), 13.80 (s, 1H, NH, D_2O exch.)
13^A	1.01-1.03 (d, J = 6.2 Hz, 3H, CH_3), 1.12-1.14 (m, 1H, c-CH_2), 1.71-2.12 (m, 6H, c-CH_2), 2.49-2.51 (t, 1H, c-CH_2), 3.03-3.04 (m, 1H, c-CH_2), 3.84 (s, 3H, 4'-OCH_3Ar), 6.51 (s, 1H, C_5H-thiaz.), 6.98-7.00 (d, J_o = 8.1 Hz, 2H, Ar), 7.64-7.66 (d, J_o = 8.0 Hz, 2H, Ar), 12.40 (s, 1H, NH, D_2O exch.), 13.52 (s, 1H, NH, D_2O exch.)
14^A	1.01-1.02 (d, J = 6.4 Hz, 3H, CH_3), 1.25-1.26 (m, 1H, c-CH_2), 1.70-1.99 (m, 6H, c-CH_2), 2.50-2.52 (m, 1H, c-CH_2), 2.99-3.01 (m, 1H, c-CH_2), 6.70 (s, 1H, C_5H-thiaz.), 7.46-7.47 (d, J_o = 8.0 Hz, 2H, Ar), 7.64-7.66 (d, J_o = 8.0 Hz, 2H, Ar), 12.49 (s, 1H, NH, D_2O exch.), 13.82 (s, 1H, NH, D_2O exch.)
15^A	0.97-0.99 (d, J = 6.5 Hz, 3H, CH_3), 1.40-1.60 (m, 3H, c-CH_2), 1.95-2.06 (m, 2H, c-CH_2), 2.29-2.42 (m, 2H, c-CH_2), 2.52-2.53 (m, 1H, c-CH_2), 3.05-3.09 (m, 1H, c-CH_2), 3.86 (s, 3H, 4'-OCH_3Ar), 6.51 (s, 1H, C_5H-thiaz.), 6.98-7.00 (d, J_o = 8.1 Hz, 2H, Ar), 7.70-7.72 (d, J_o = 8.0 Hz, 2H, Ar), 12.51 (s, 1H, NH, D_2O exch.), 13.75 (s, 1H, NH, D_2O exch.)
16^A	0.99-1.00 (d, J = 6.1 Hz, 3H, CH_3), 1.20-1.21 (m, 2H, c-CH_2), 1.60-1.61 (m, 1H, c-CH_2), 2.00-2.01 (t, 2H, c-CH_2), 2.20-2.30 (m, 2H, c-CH_2), 2.60-2.61 (m, 1H, c-CH_2), 3.09-3.10 (m, 1H, c-CH_2), 6.68 (s, 1H, C_5H-thiaz.), 7.47-7.51 (m, 2H, Ar), 7.71-7.73 (d, J_o = 8.6 Hz, 2H, Ar), 12.55 (s, 1H, NH, D_2O exch.), 13.75 (bs, 1H, NH, D_2O exch.)
17^A	1.59-1.63 (m, 6H, c-CH_2), 1.84 (s, 2H, c-CH_2), 2.54-2.57 (m, 2H, c-CH_2), 2.69-2.72 (m, 2H, c-CH_2), 3.85 (s, 3H, 4'-OCH_3Ar), 6.53 (s, 1H, C_5H-thiaz.), 6.98-7.00 (d, J_o = 8.8 Hz, 2H, Ar), 7.65-7.67 (d, J_o = 8.7 Hz, 2H, Ar), 12.22 (s, 1H, NH, D_2O exch.), 13.80 (bs, 1H, NH, D_2O exch.)
18^A	1.63-1.70 (m, 6H, c-CH_2), 1.85 (s, 2H, c-CH_2), 2.56-2.59 (t, 2H, c-CH_2), 2.68-2.71 (d, J_o = 5.8 Hz, 2H, c-CH_2), 6.97 (s, 1H, C_5H-thiaz.), 7.93-7.95 (d, J_o = 7.8 Hz, 2H, Ar), 8.34-8.36 (d, J_o = 8.8 Hz, 2H, Ar), 12.30 (s, 1H, NH, D_2O exch.), 14.25 (s, 1H, NH, D_2O exch.)

^{1}H-NMR solvent: ^{A}$CDCl_3$, ^{B}DMSO-d_6

Biological Study

Yeast strains

S. cerevisiae w303; MATa, ade2-1, trp1-1, leu2-3, 112 his3-11,15, ura3, can1-100, ssd1; *gcn5*Δ MATa, gcn5: KanMX4, ade2-1, trp1-1, leu2-3, 112 his3-11,15 ura3 can1-100, ssd1. Cells were grown in YEPD rich medium (1% yeast extract, 2% bactopeptone, 2% glucose, 20 µg/l adenine) at 28 °C for 48 h. Compounds **1-18** were resuspended in DMSO and used at the indicated concentrations.

Elemental Analyses

Comp	C Calcd/Found	H Calcd/Found	N Calcd/Found
1	62.69/62.68	5.96/5.95	14.62/14.60
2	57.63/57.62	4.84/4.85	14.40/14.38
3	63.76/63.77	6.35/6.36	13.94/13.93
4	58.91/58.90	5.27/5.27	13.74/13.73
5	63.76/63.75	6.35/6.36	13.94/13.92
6	58.91/58.90	5.27/5.27	13.74/13.72
7	63.76/63.77	6.35/6.36	13.94/13.93
8	58.91/58.92	5.27/5.28	13.74/13.73
9	64.73/64.75	6.71/6.70	13.32/13.31
10	60.08 /60.10	5.67/5.68	13.14/13.13
11	64.73/64.74	6.71/6.70	13.32/13.31
12	60.08 /60.08	5.67/5.68	13.14/13.15
13	64.73/64.74	6.71/6.72	13.32/13.34
14	60.08 /60.10	5.67/5.68	13.14/13.16
15	64.73/64.75	6.71/6.72	13.32/13.31
16	60.08 /60.06	5.67/5.66	13.14/13.15
17	64.73/64.71	6.71/6.70	13.32/13.30
18	60.08 /60.07	5.67/5.66	13.14/13.12