

## Differences in Specificity and Selectivity Between CBP and p300 acetylation of histone H3 and H3/H4

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### Supporting Information

**SUPPLEMENTAL FIGURE 1.** Determination of steady-state kinetic parameters of CBP- and p300-mediated acetylation of histone H3 when titrating H3. Experiments were performed at 37 °C in 100 mM Ammonium bicarbonate and 50 mM HEPES buffer (pH 7.8) at 37°C. Assays contained from 1 to 150 nM p300 or 0.5 to 10 nM CBP, with varying concentrations of H3 (0.25 - 15  $\mu$ M), and constant (200  $\mu$ M) acetyl-CoA. Experiments were quenched with 4 volumes of TCA and boiled at 95 °C for 5 minutes. The acetylation sites for CBP are (from A-C): H3K14, H3K18, and H3K23. The acetylation sites for p300 are (from D-G): H3K14, H3K18, H3K23, and H3K9. The apparent kinetic parameters are summarized in Table 1.

**SUPPLEMENTAL FIGURE 2.** Determination of steady-state kinetic parameters of CBP- and p300-mediated acetylation of histone H3 when titrating acetyl-CoA. Experiments were performed at 37 °C in 100 mM Ammonium bicarbonate and 50 mM HEPES buffer (pH 7.8) at 37°C. Assays for p300 contained 50 nM p300, 17.5  $\mu$ M H3, and varying concentrations of acetyl-CoA (1- 200  $\mu$ M). Assays for CBP contained 7 nM CBP, 7.5  $\mu$ M H3, and varying concentrations of acetyl-CoA (1- 200  $\mu$ M). Experiments were quenched with 4 volumes of TCA and boiled at 95 °C for 5 minutes. The acetylation sites for CBP are (from A-C): H3K14, H3K18, and H3K23. The acetylation sites for p300 are (from D-G): H3K14, H3K18, H3K23, and H3K9. The apparent kinetic parameters are summarized in Table 2.

**SUPPLEMENTAL FIGURE 3.** Determination of steady-state kinetic parameters of CBP and- p300-mediated acetylation of H3 on H3/H4 when titrating H3/H4. Experiments were performed at 37 °C in

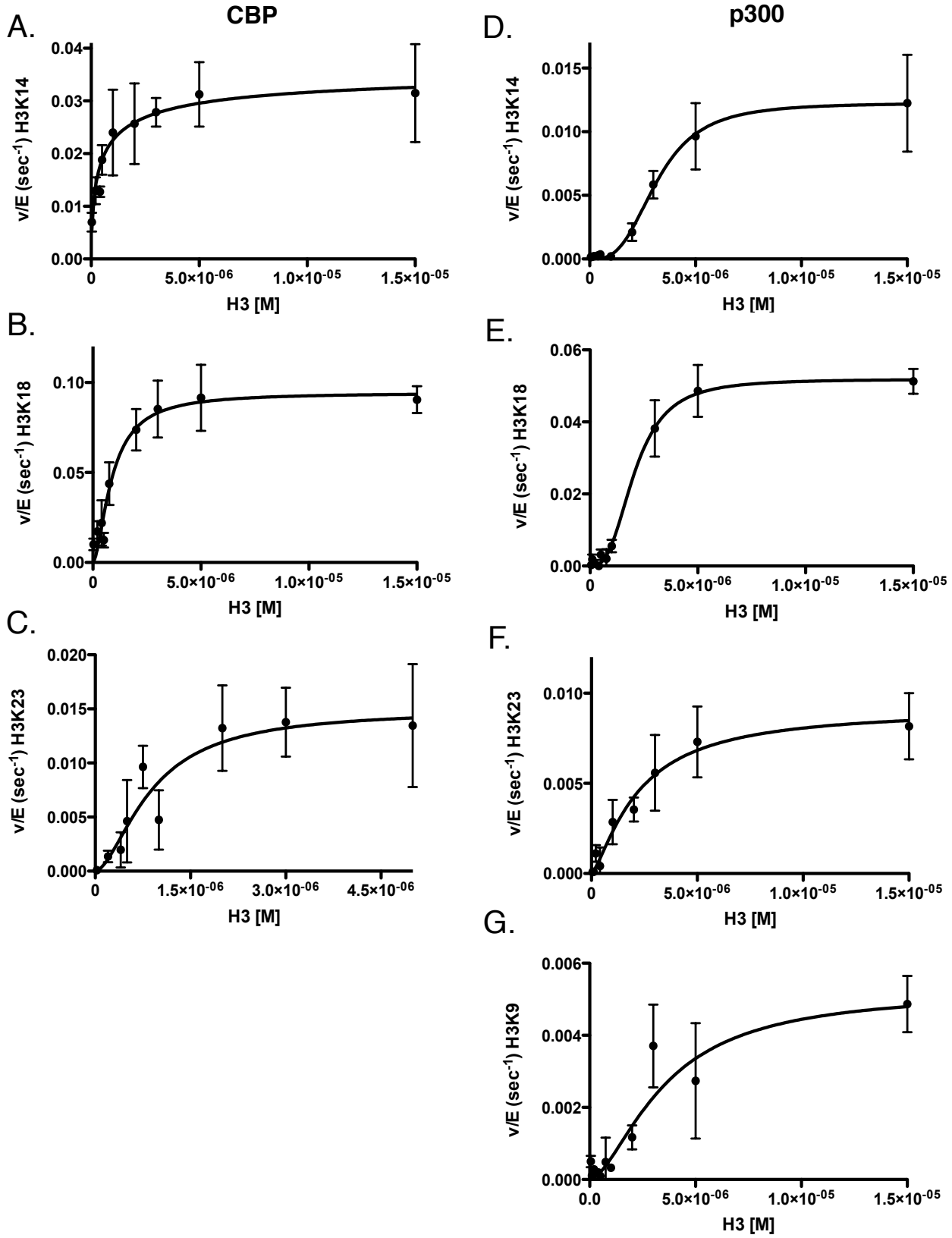
100 mM Ammonium bicarbonate and 50 mM HEPES buffer (pH 7.8) at 37°C. Assays contained from 1 to 22.5 nM CBP or 1 to 50 nM p300, with varying concentrations of H3/H4 (0.25 - 10  $\mu$ M), and constant (200  $\mu$ M) acetyl-CoA. Experiments were quenched with 4 volumes of TCA and boiled at 95 °C for 5 minutes. The acetylation sites for CBP are (from A-C): H3K14, H3K18, and H3K23. The acetylation sites for p300 are (from D-G): H3K14, H3K18, H3K23, and H3K9. The apparent kinetic parameters are summarized in Table 3.

**SUPPLEMENTAL FIGURE 4.** Determination of steady-state kinetic parameters of CBP- and p300-mediated acetylation of H4 on H3/H4 when titrating H3/H4. Experiments were performed at 37 °C in 100 mM Ammonium bicarbonate and 50 mM HEPES buffer (pH 7.8) at 37°C. Assays contained from 1 to 22.5 nM CBP or 1 to 50 nM p300, with varying concentrations of H3/H4 (0.25 - 10  $\mu$ M), and constant (200  $\mu$ M) acetyl-CoA. Experiments were quenched with 4 volumes of TCA and boiled at 95 °C for 5 minutes. The acetylation sites for CBP are (from A-D): H4K5, H4K8, H4K12, and H4K16. The acetylation sites for p300 are (from E-H): H4K5, H4K8, H4K12, and H4K16.

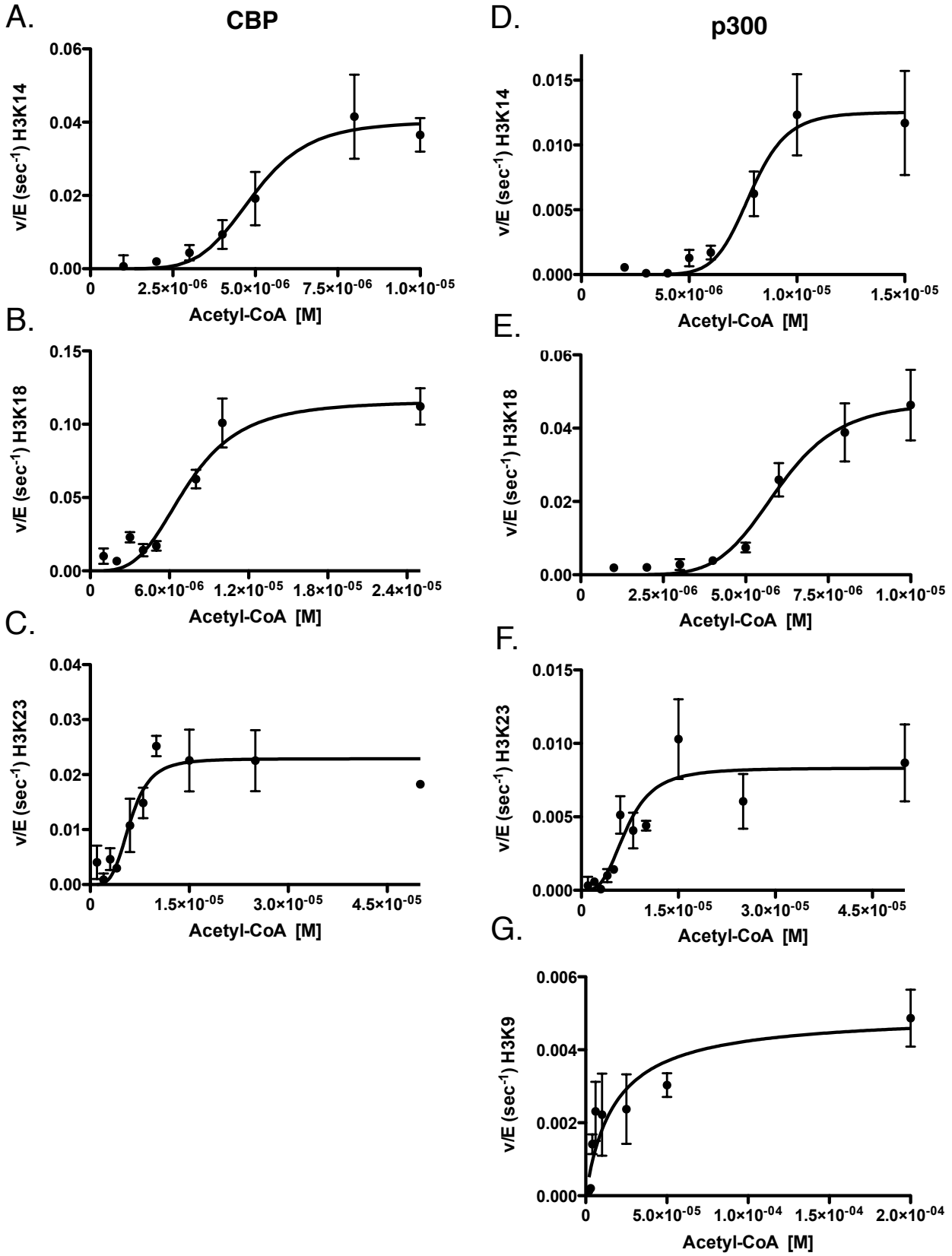
**SUPPLEMENTAL FIGURE 5.** Determination of steady-state kinetic parameters of p300-mediated acetylation of H3 on H3/H4 when titrating acetyl-CoA. Experiments were performed at 37 °C in 100 mM Ammonium bicarbonate and 50 mM HEPES buffer (pH 7.8) at 37°C. Assays contained either 20 nM CBP or 50 nM p300, 7.5  $\mu$ M H3/H4, and varying concentrations of acetyl-CoA (1- 200  $\mu$ M). Experiments were quenched with 4 volumes of TCA and boiled at 95 °C for 5 minutes. The acetylation sites for CBP are (from A-C): H3K14, H3K18, and H3K23. The acetylation sites for p300 are (from D-G): H3K14, H3K18, H3K23, and H3K9. The apparent kinetic parameters are summarized in Table 4.

**SUPPLEMENTAL FIGURE 6.** Determination of steady-state kinetic parameters of CBP-mediated acetylation of H4 on H3/H4 when titrating acetyl-CoA. Experiments were performed at 37 °C in 100 mM Ammonium bicarbonate and 50 mM HEPES buffer (pH 7.8) at 37°C. Assays contained either 20 nM CBP or 50 nM p300, 7.5 μM H3/H4, and varying concentrations of acetyl-CoA (1- 200 μM). Experiments were quenched with 4 volumes of TCA and boiled at 95 °C for 5 minutes. The acetylation sites for CBP are (from A-D): H4K5, H4K8, H4K12, and H4K16. The acetylation sites for p300 are (from E-H): H4K5, H4K8, H4K12, and H4K16. The apparent kinetic parameters are summarized in Table 4.

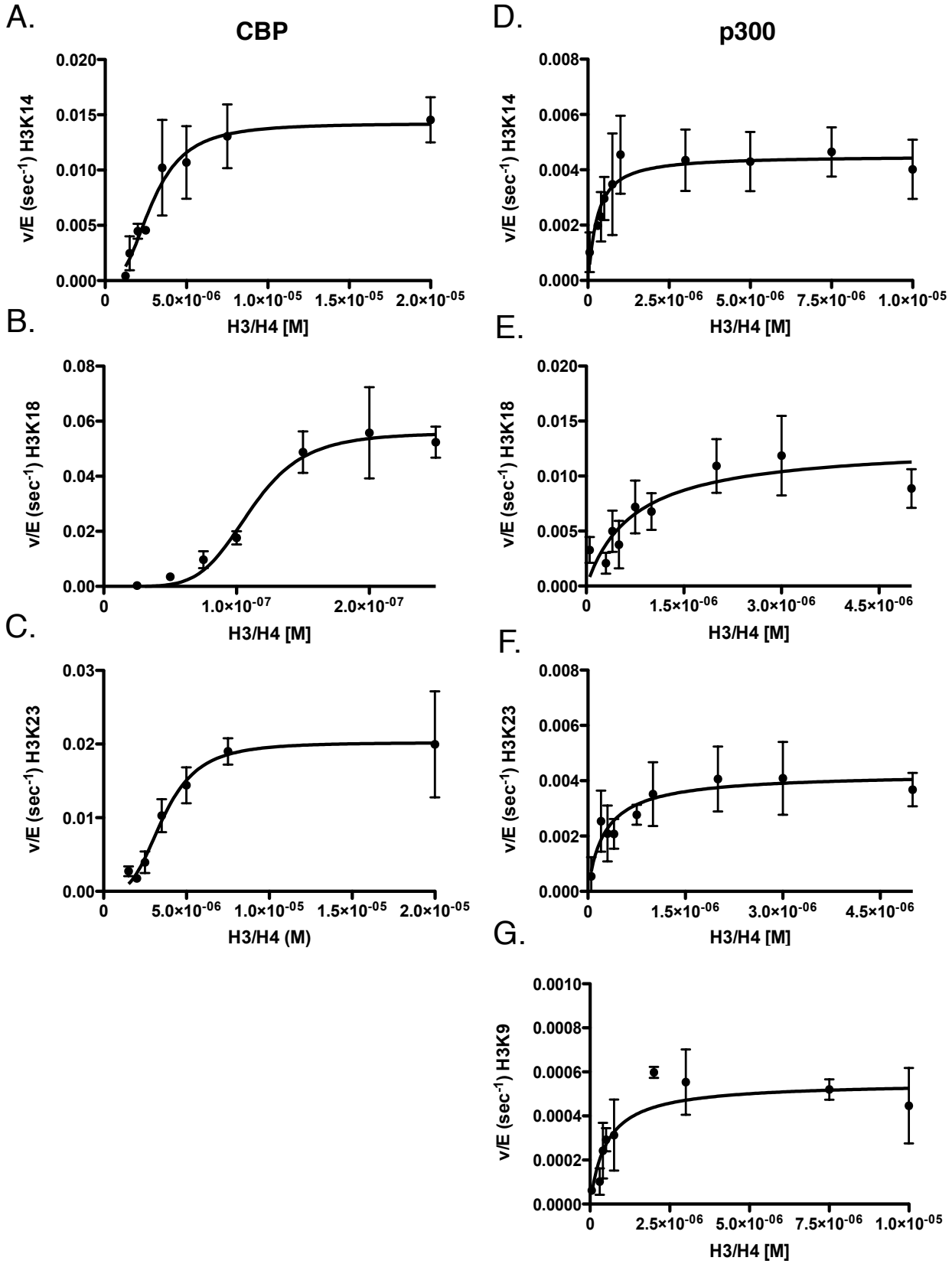
Supplemental Figure 1



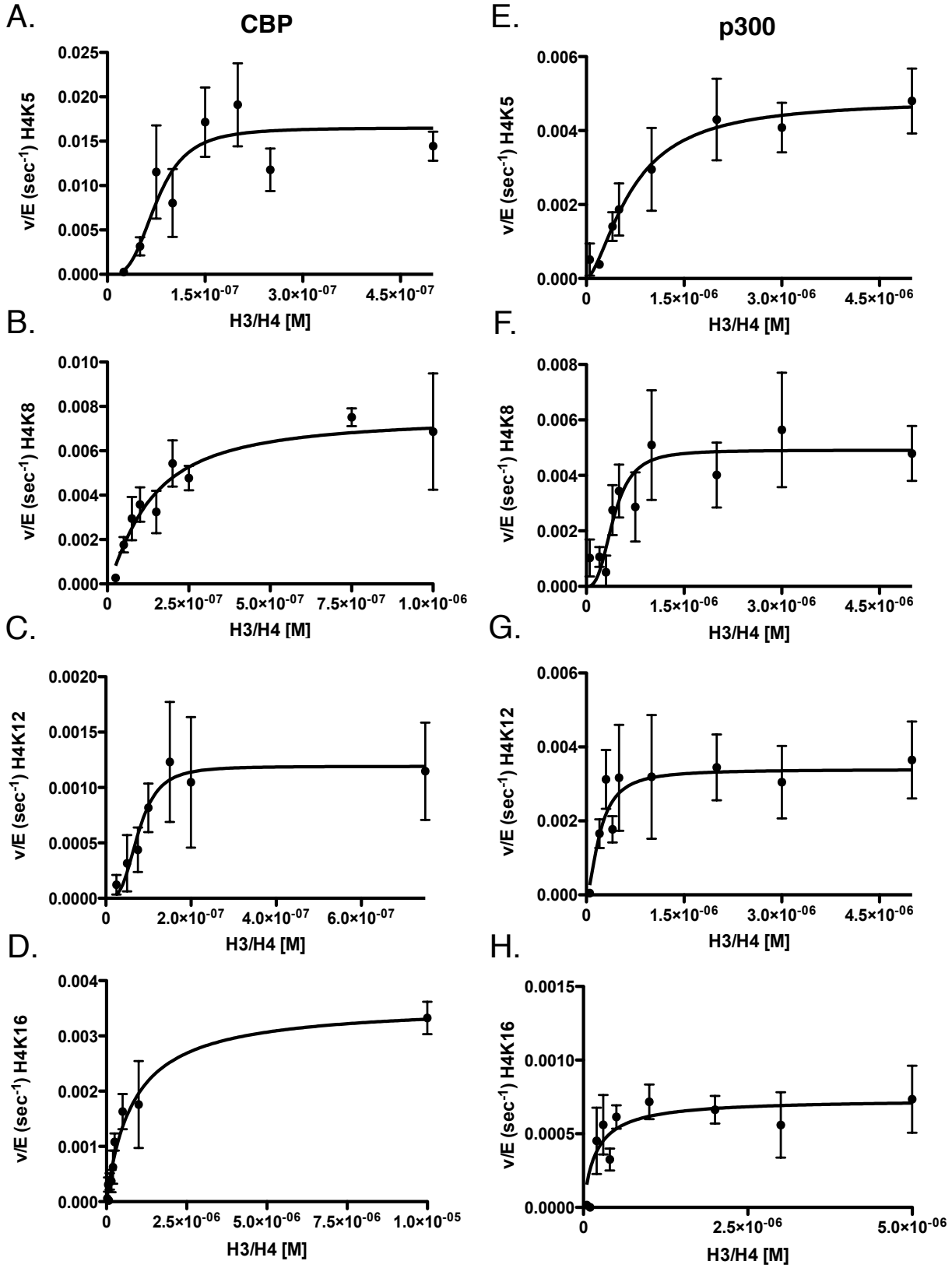
Supplemental Figure 2



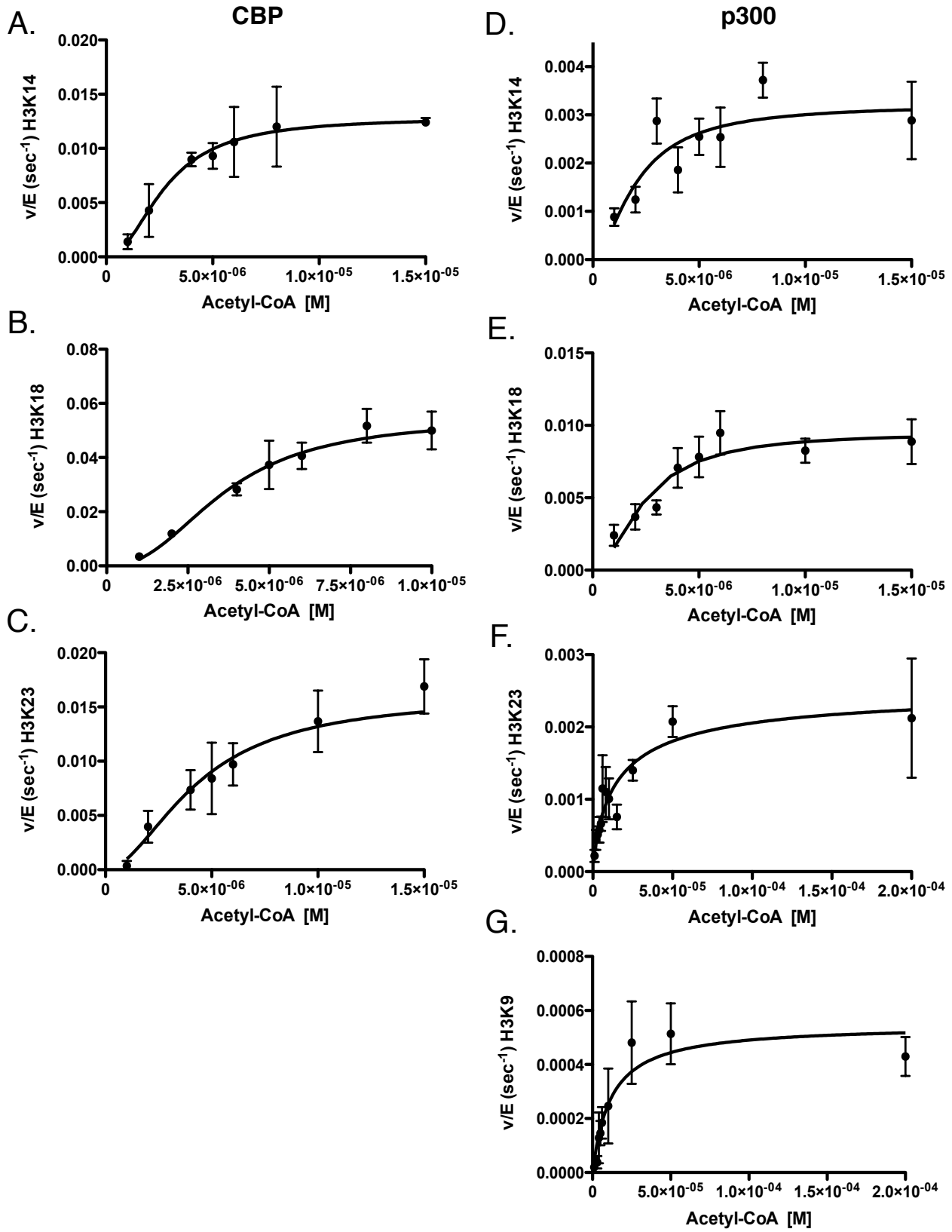
Supplemental Figure 3



Supplemental Figure 4



Supplemental Figure 5





Supplemental Figure 6

