

## Supplementary information for

### **Loss of lysyl hydroxylase 2 activates CRP-mediated cancer invasion through MEK/ERK/MMP9 signaling in the bone-microenvironment**

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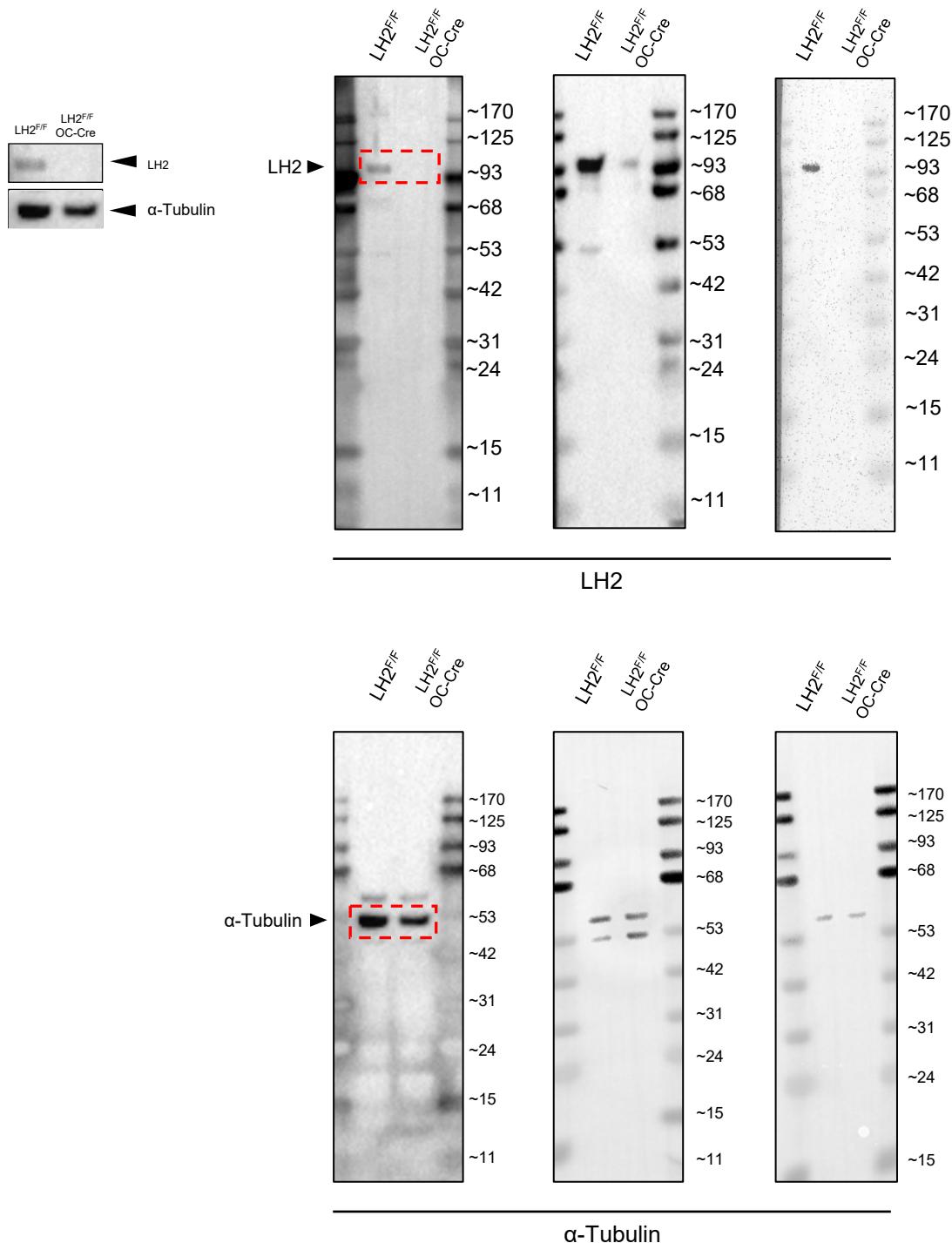
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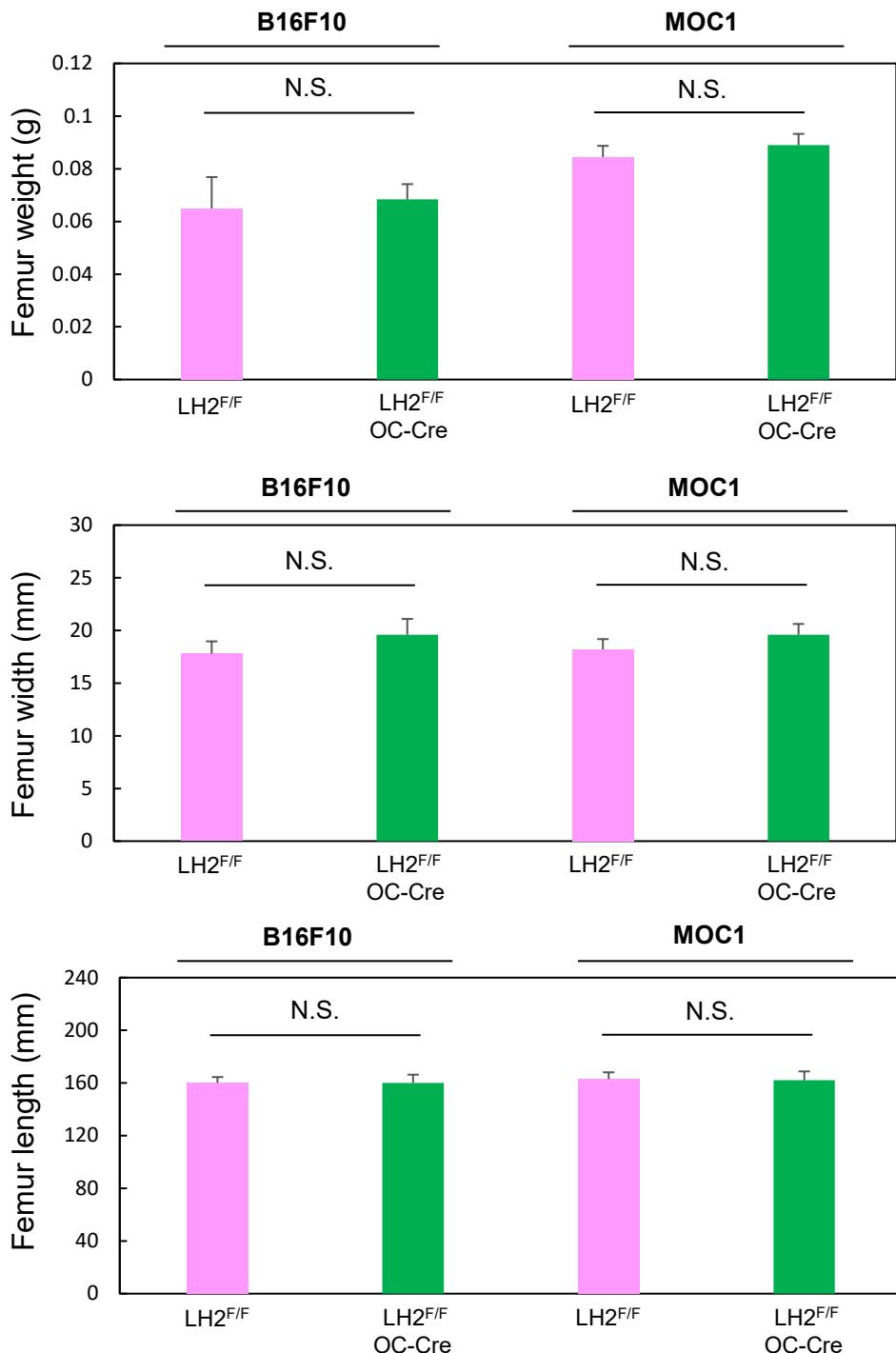
**Supplemental Figure S1**  
**(Full length blots of Figure 1B )**



**Supplementary Figure S1 | Full-length unprocessed Western blots of LH2 and  $\alpha$ -Tubulin.**

The samples derived from these experiments were used for immunoblotting shown in Figures 1A. LH2 and  $\alpha$ -Tubulin were detected on separate membranes derived from the same samples. Three independent experiments are shown. All blots were detected under identical exposure and contrast settings.

## Supplemental Figure S2

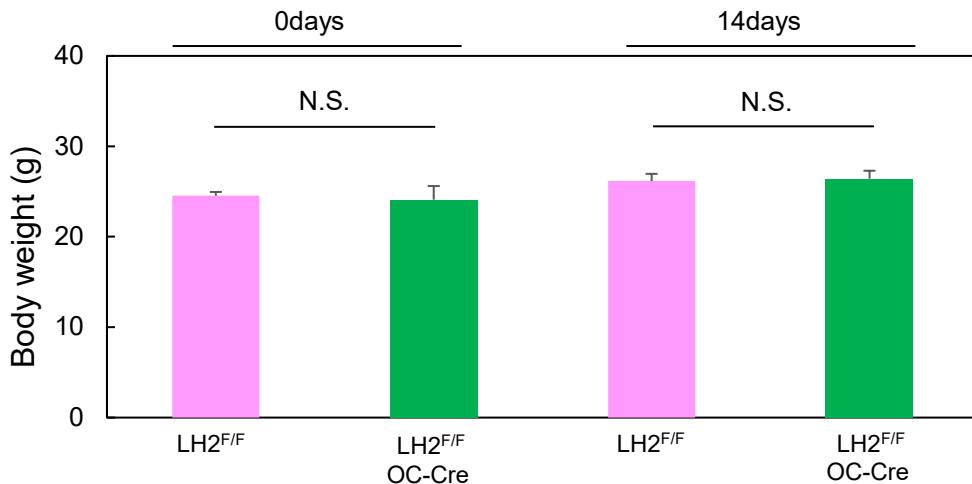


### Supplementary Figure S2 | The morphology of femurs between LH2<sup>F/F</sup> and LH2<sup>F/F</sup> OC-Cre mice after cancer cell injection.

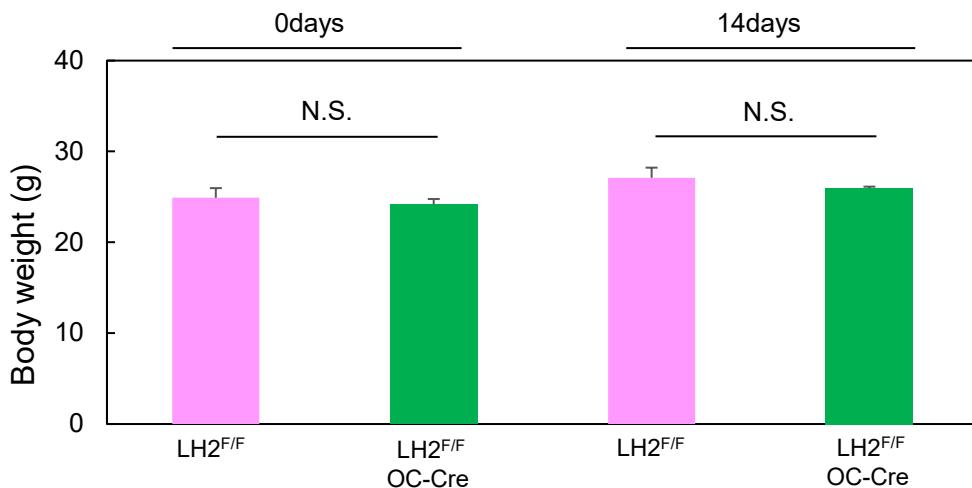
The weight, length, and width of femurs in LH2<sup>F/F</sup> and LH2<sup>F/F</sup> OC-Cre mice were collected and measured on day 14 after intra-femoral cancer cell injection. Data are presented as mean  $\pm$  SD (n = 5 per group). No significant difference was observed between groups (Welch's t-test).

### Supplemental Figure S3

#### B16F10



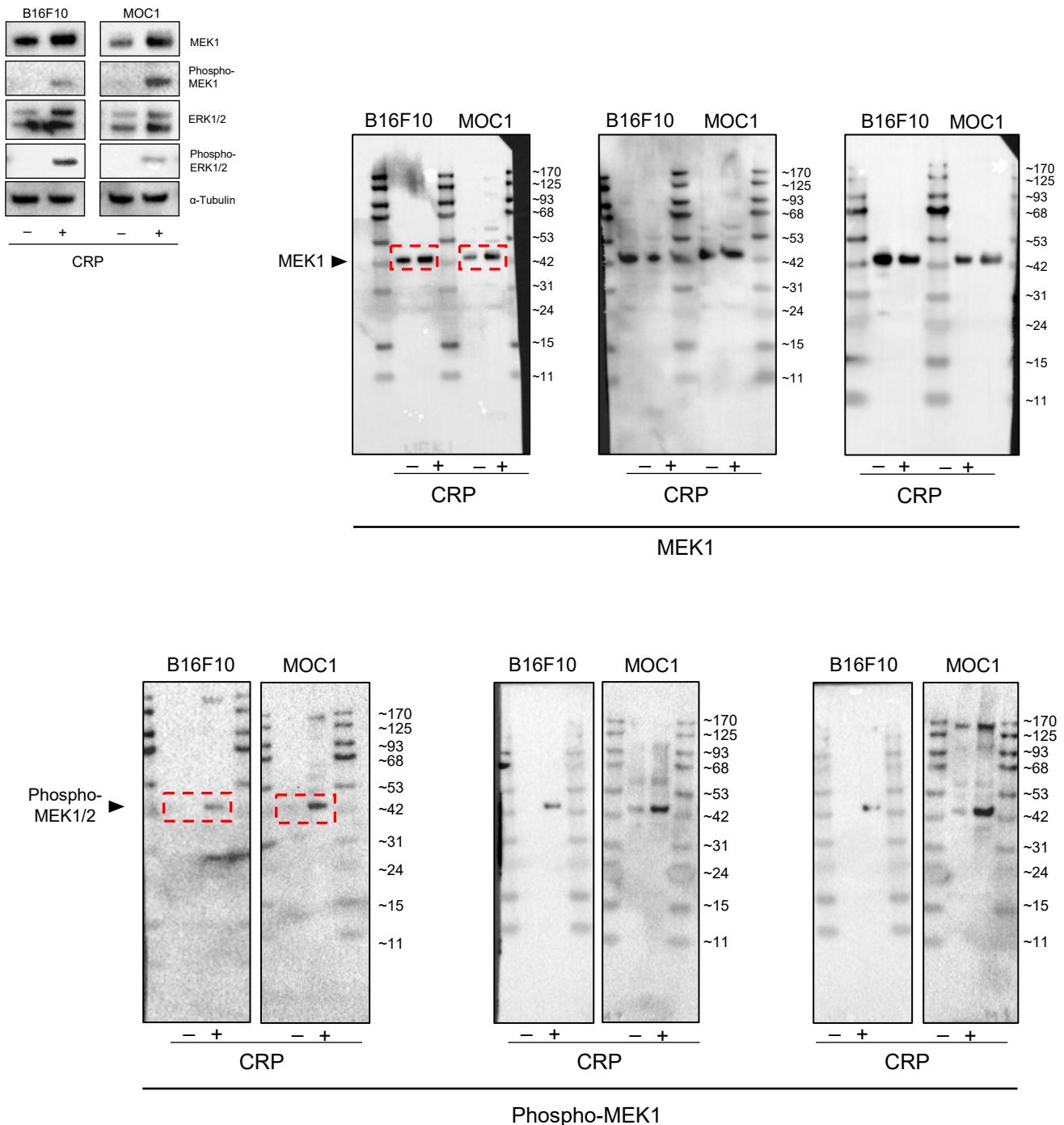
#### MOC1



#### Supplementary Figure S3 | Body weight changes during bone invasion experiments.

Body weights of LH2<sup>F/F</sup> and LH2<sup>F/F</sup> OC-Cre mice were measured on day 0 and day 14 after intra-femoral cancer cell injection. Data are presented as mean  $\pm$  SD (n = 5 per group). No significant difference was observed between groups (Welch's t-test).

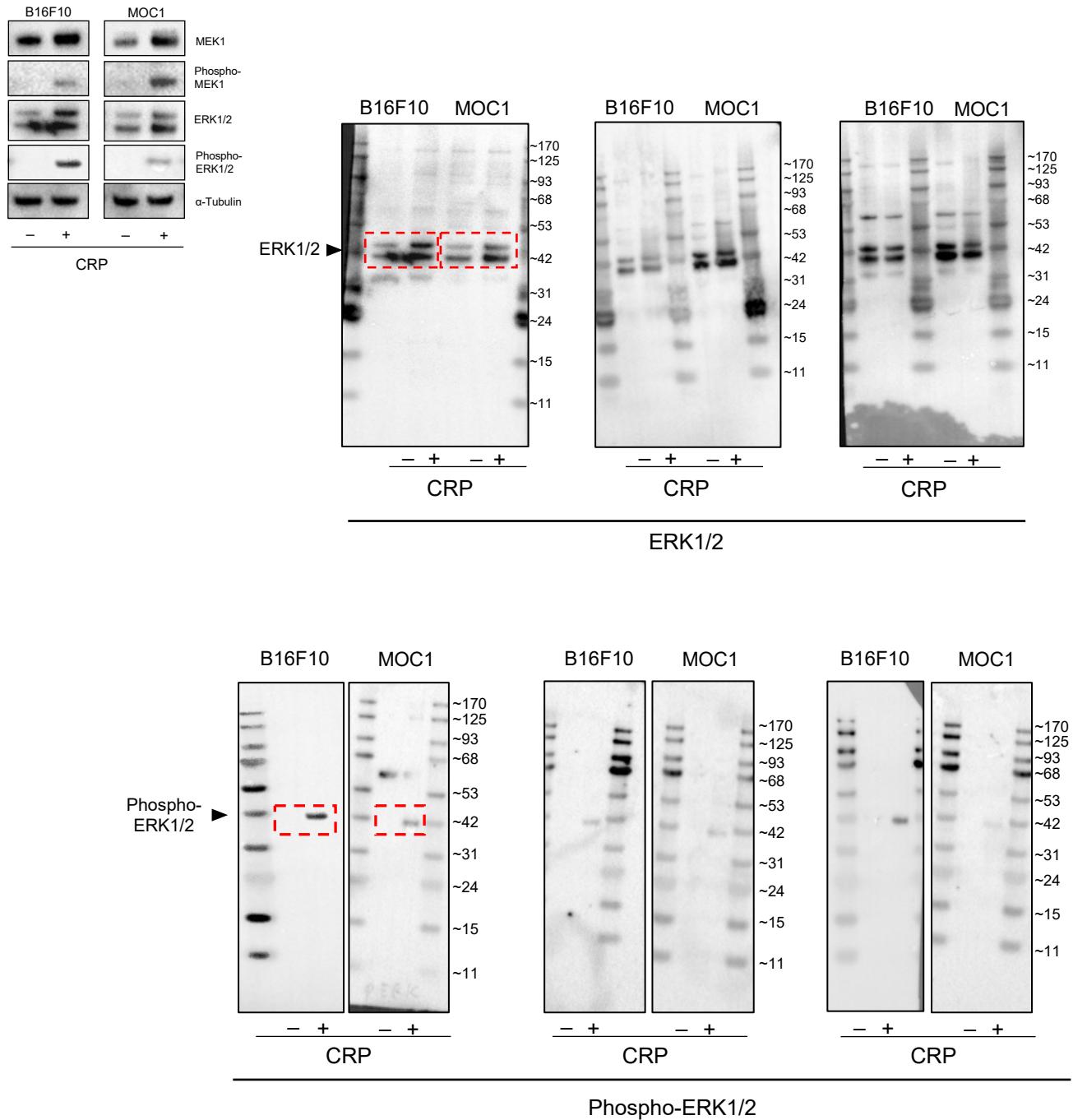
**Supplemental Figure S4**  
**(Full length blots of Figure 5A )**



**Supplementary Figure S4 | Full-length unprocessed Western blots of MEK1 and phospho-MEK1.**

The samples derived from these experiments were used for immunoblotting shown in Figures 5A. MEK1 and phospho-MEK1 were detected on separate membranes derived from the same samples. Three independent experiments are shown. All blots were detected under identical exposure and contrast settings.

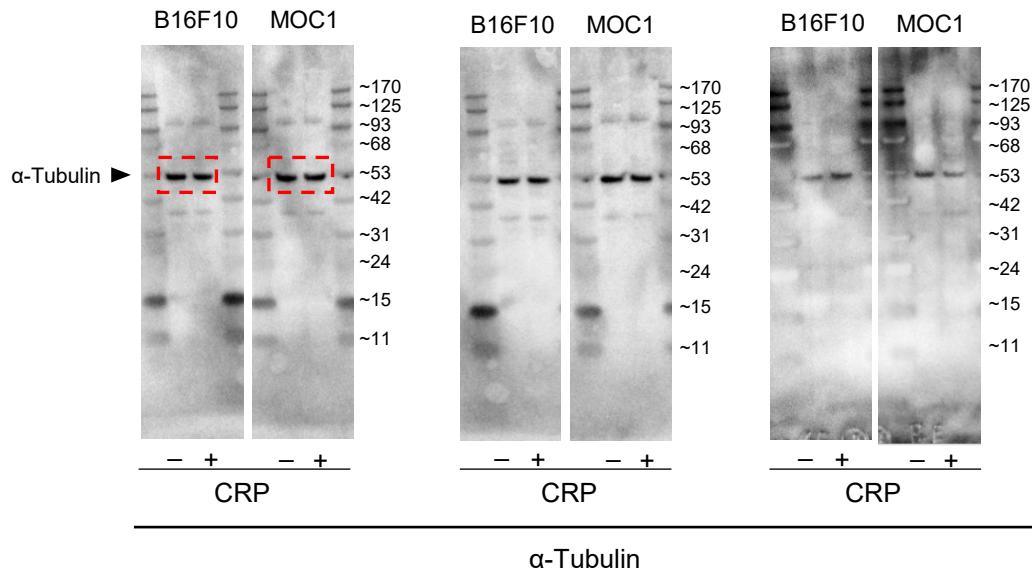
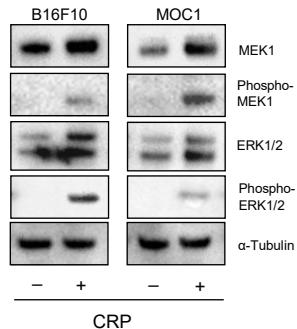
**Supplemental Figure S5**  
**(Full length blots of Figure 5A )**



**Supplementary Figure S5 | Full-length unprocessed Western blots of ERK1/2 and phospho-ERK1/2.**

The samples derived from these experiments were used for immunoblotting shown in Figures 5A. ERK1/2 and phospho-ERK1/2 were detected on separate membranes derived from the same samples. Three independent experiments are shown. All blots were detected under identical exposure and contrast settings.

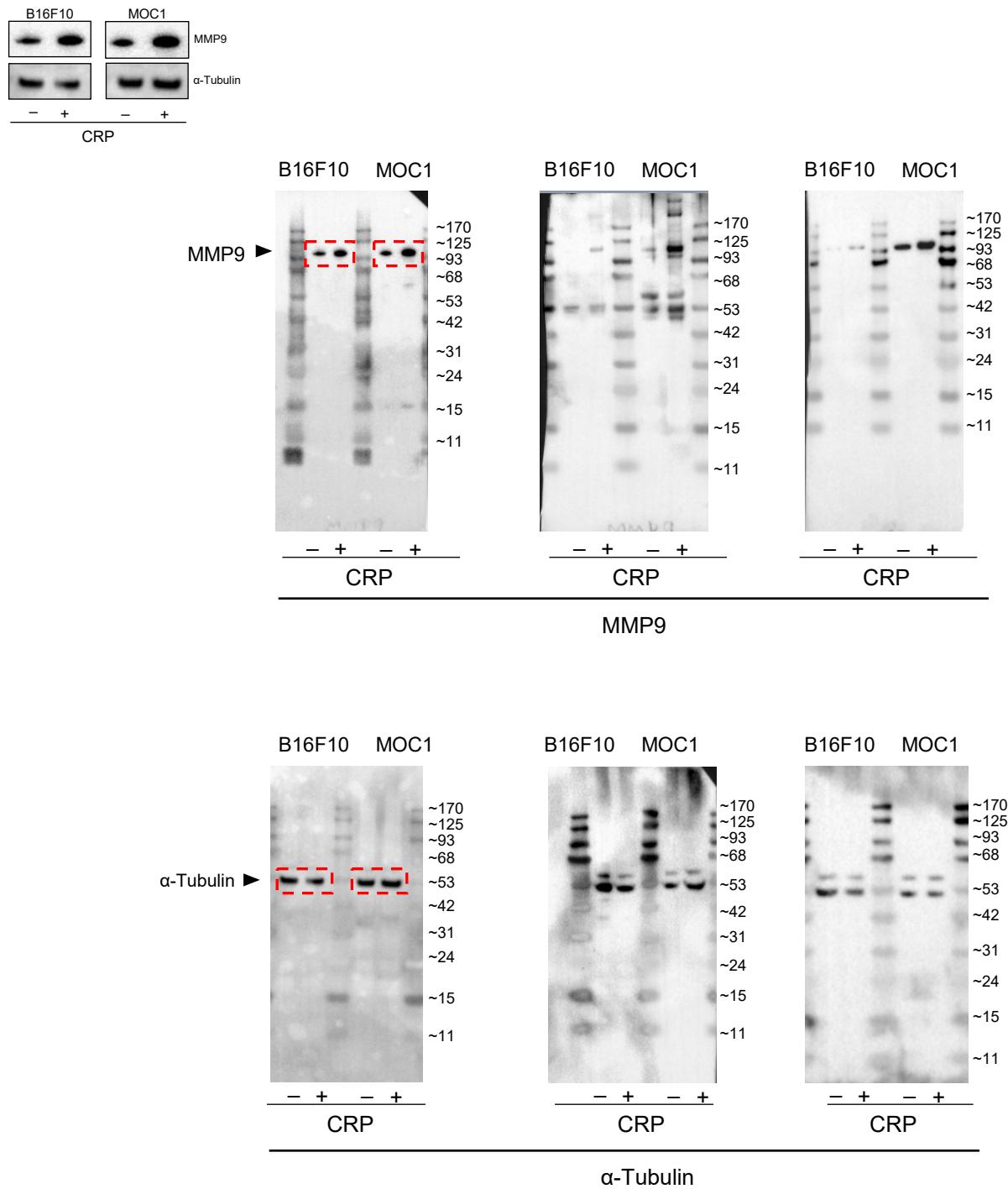
## Supplemental Figure S6 (Full length blots of Figure 5A )



### Supplementary Figure S6 | Full-length unprocessed Western blots of α-Tubulin.

The samples derived from these experiments were used for immunoblotting shown in Figures 5A. α-Tubulin was detected on separate membranes derived from the same samples. Three independent experiments are shown. All blots were detected under identical exposure and contrast settings.

## Supplemental Figure S7 (Full length blots of Figure 5B )



**Supplementary Figure S7 | Full-length unprocessed Western blots of MMP9 and α-Tubulin.**

The samples derived from these experiments were used for immunoblotting shown in Figures 5B. MMP9 and α-Tubulin were detected on separate membranes derived from the same samples. Three independent experiments are shown. All blots were detected under identical exposure and contrast settings.