

## SUPPLEMENTARY DATA

**Supplementary Table 1. Antibodies.**

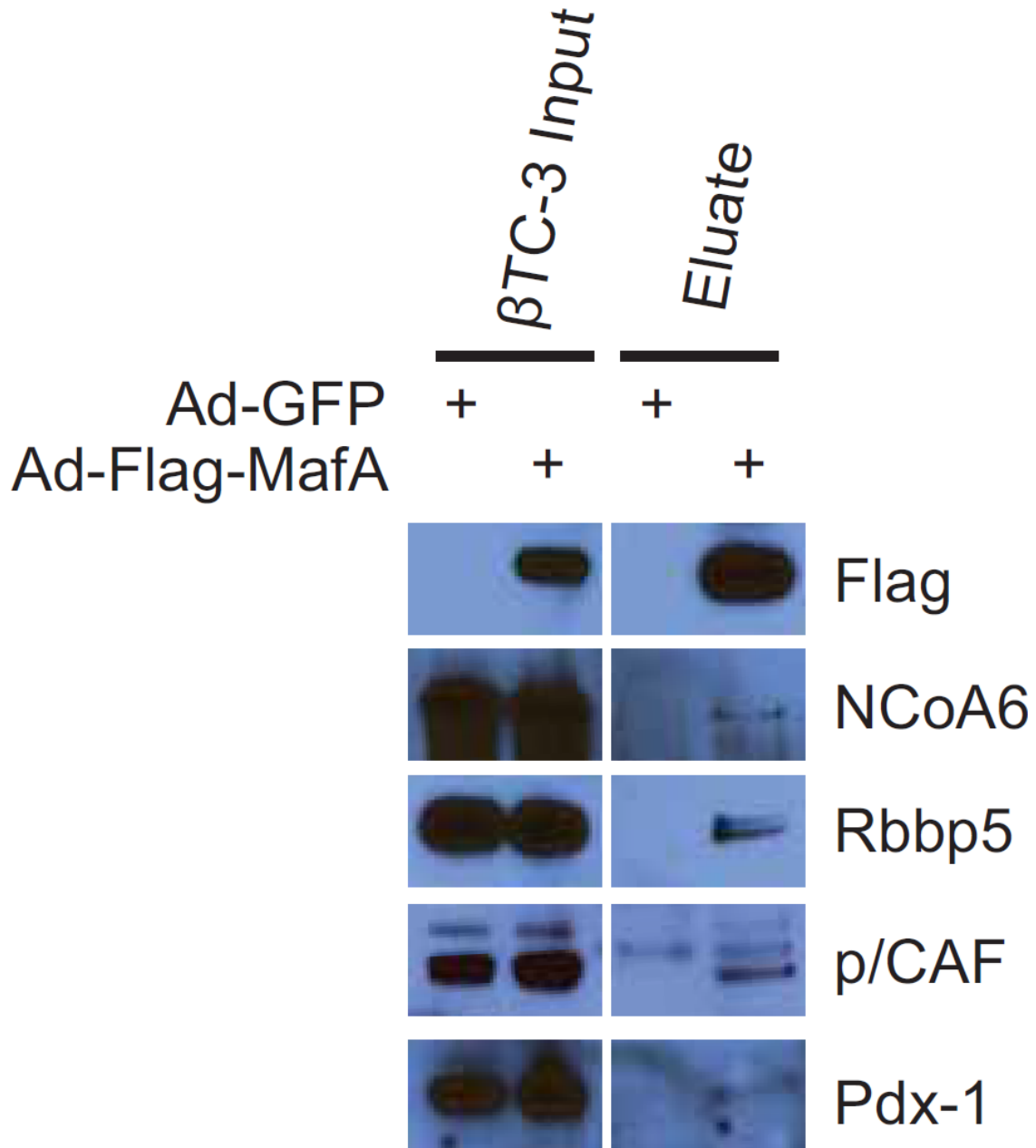
**Supplementary Table 2. Primers used in qPCR experiments.**

**Supplementary Table 3. MudPIT results from Re-CLIP.** The proteins detected in both MudPIT analyses are in green, and those found only in one are depicted in red. The bolded lettering depicts proteins in Mll3/4 complexes. All proteins listed had greater than two-fold peptide enrichment in the MafA Re-CLIP compared to control.

**Supplementary Table 4. Identification of direct targets of MafA.** This list was compiled upon comparing the MafA<sup>Δpanc</sup> microarray data (41) to mouse islet MafA ChIP-Seq results (40). Shown is the fold expression change seen in the original microarray data, as well as the nearest ChIP-Seq peaks for MafA.

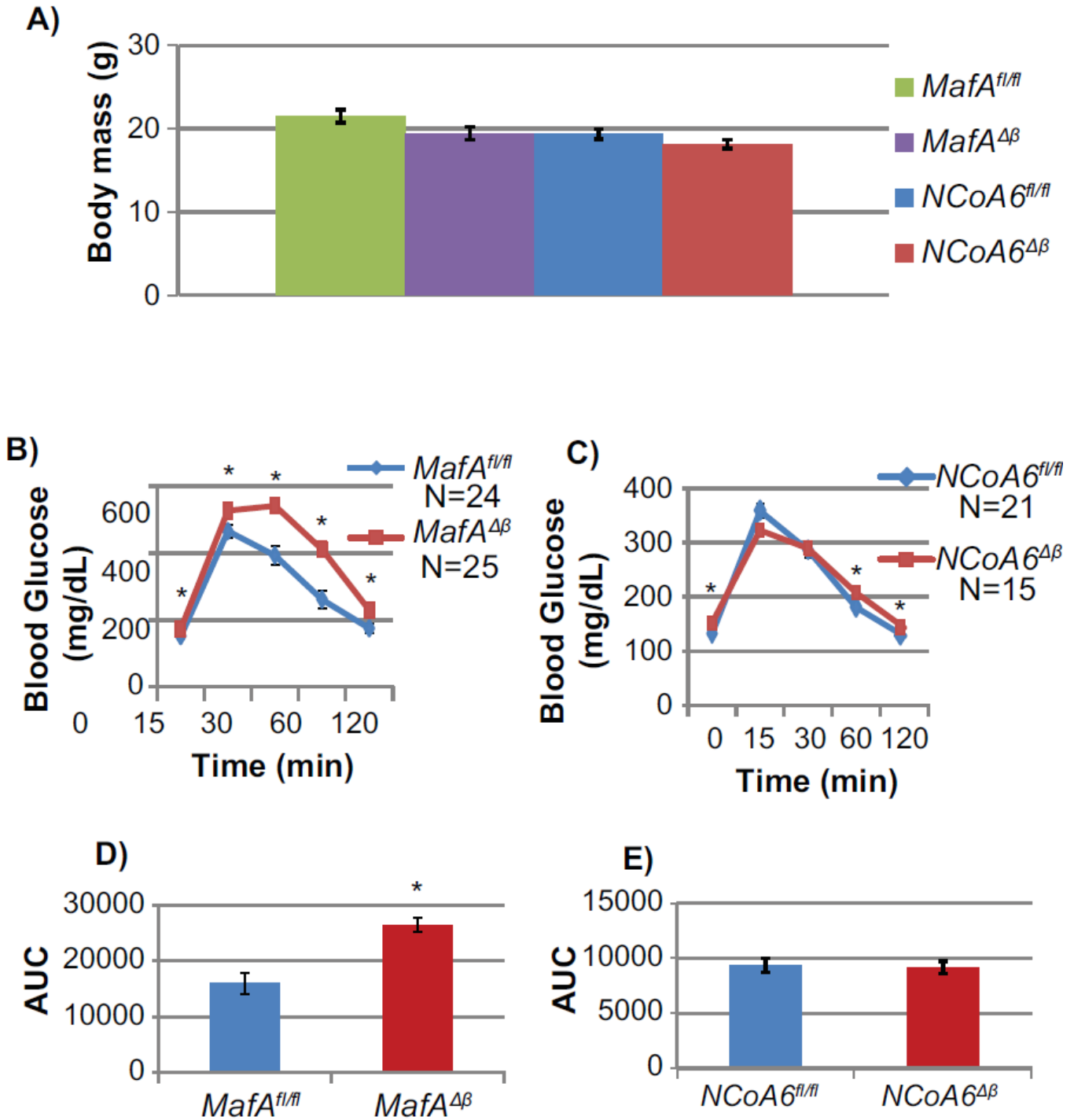
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**Supplementary Figure 1. Flag-tagged MafA is bound to the MII3/4 complex.**  $\beta$ TC-3 cells were infected with an adenovirus expressing either GFP or a Flag-tagged MafA construct. After 48 hours, nuclear extract was collected and immunoprecipitated with an anti-flag antibody. The precipitated protein was probed with the antibodies listed. A representative western blot is shown, N=3.



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**Supplementary Figure 2. *NCoA6*<sup>Δβ</sup> mice do not develop glucose intolerance.** **A)** *MafA*<sup>Δβ</sup> and *NCoA6*<sup>Δβ</sup> body mass is not significantly different between 8-week old mutant and control mice. Intraperitoneal glucose tolerance tests were performed with 8-week old *MafA*<sup>Δβ</sup>, *NCoA6*<sup>Δβ</sup>, and control littermates. **(B and C)** Only *MafA*<sup>Δβ</sup> mice display a significant defect in their ability to clear blood glucose. Numbers of each genotype used are indicated. **(D and E)** Area under the curve results from *MafA*<sup>Δβ</sup> (\*p<0.05) and *NCoA6*<sup>Δβ</sup> (p=0.84) mice.



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**Supplementary Figure 3. Slc2a2 and Slc30a8 protein levels are reduced in *MafA*<sup>Δβ</sup> and *NCoA6*<sup>Δβ</sup> mice.** Immunofluorescence analysis of *MafA*<sup>Δβ</sup>, *NCoA6*<sup>Δβ</sup>, and control littermates at 8-weeks. All images are representative.

