Supplementary information

(Full length blots/gels for the main figures in the paper)

Hydrogen sulfide maintains bone homeostasis by balancing inflammatory cytokine signaling in CBS-deficient mice through an epigenetic mechanism

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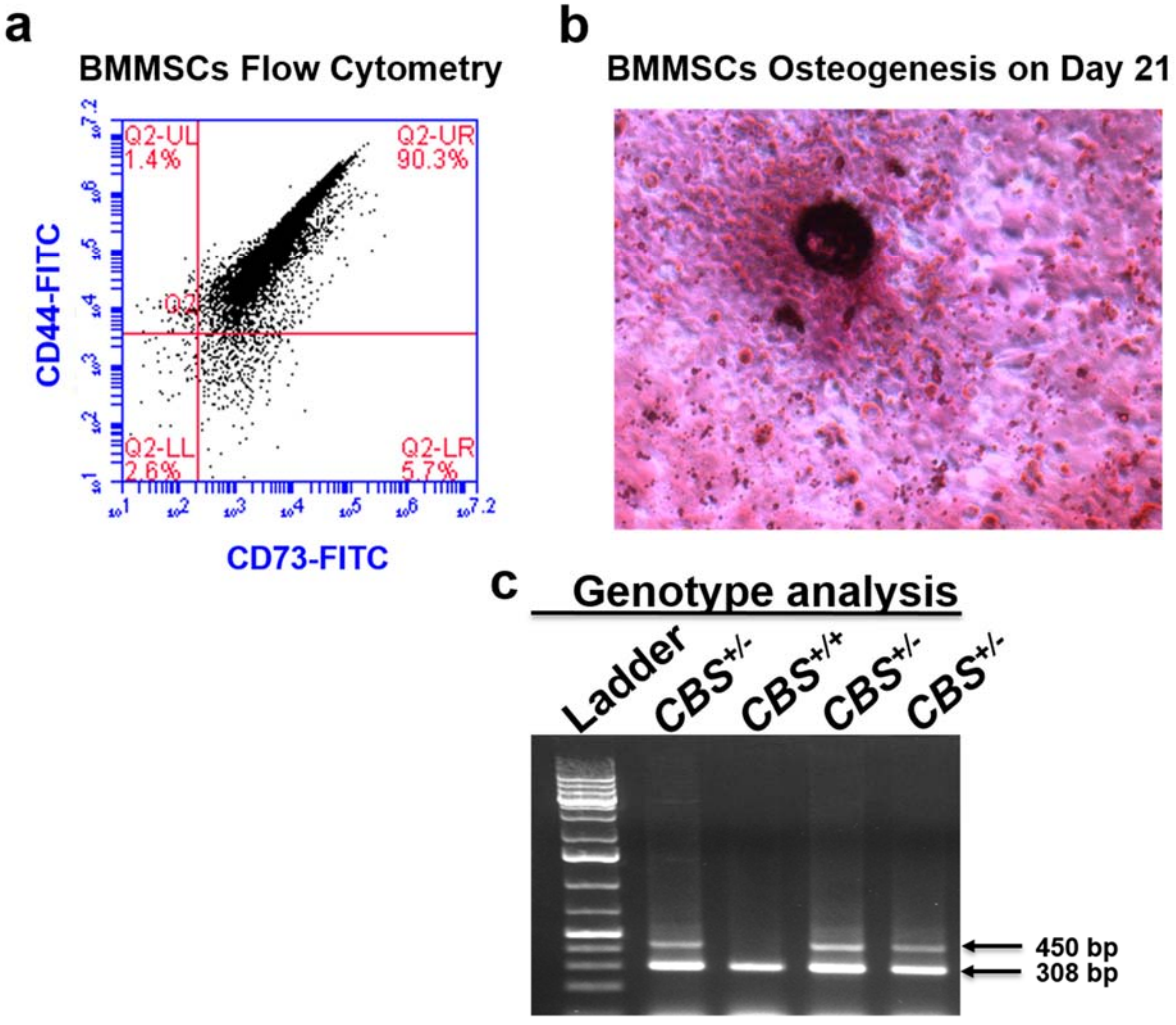
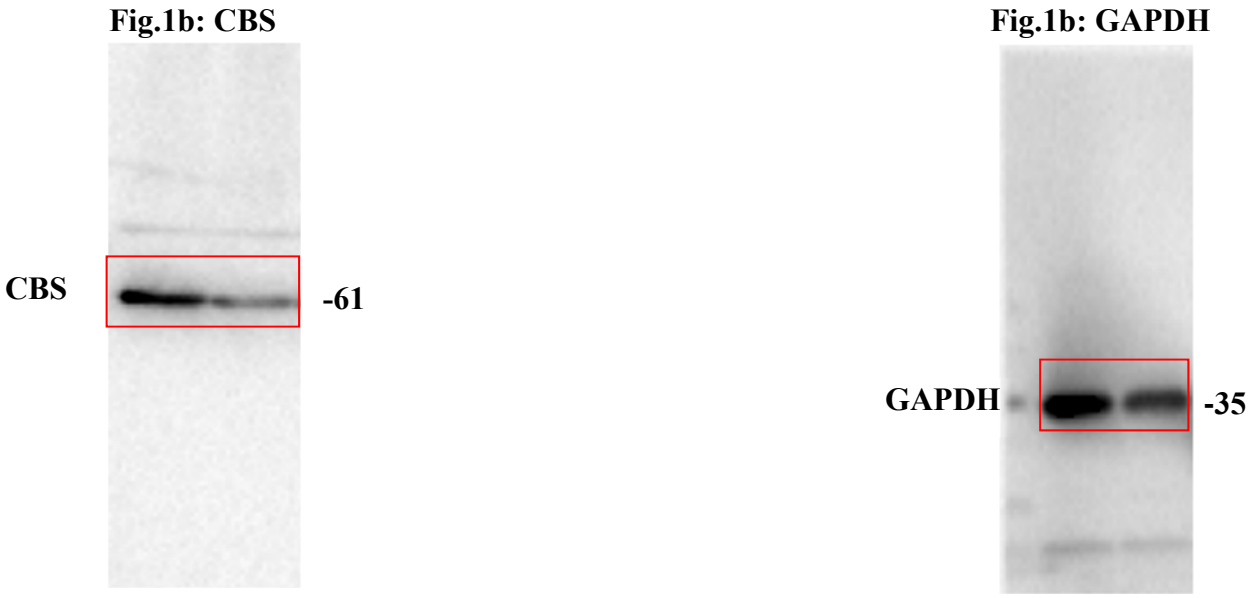


Supplementary Figure 1

Supplementary Fig. S1: Characterization of BMMSCs. (A) Flow cytometry analysis of BMMSCs assessing the presence of CD44 and CD73. 90.3% of BMMSCs were stained positive for both CD44 and CD73. (B) To evaluate BMMSCs differentiation and mineralization, BMMSCs were plated at a concentration of $3.2x10^2$/well and were grown for 21 days in osteogenic medium. Mineralization capacity was evaluated by Alizarin red staining. (C) Representative genotype image of CBS mice done with specific sets of primers. Heterozygote $CBS^{+/-}$ mice produced two bands of 450 and 308 bp; $CBS^{+/+}$ mice produced a single band of 308 bp. Experiments were repeated three times.

Full-length blots for Figure 1



Supplementary Fig. S2: Uncropped gels/blots for main Fig.1b. Boxed regions are used in the main figures. For some data, transferred membranes were horizontally cut for applying multiple antibodies. Lanes for unrelated samples are deleted. Lanes from left to right in red box: WT, *CBS*$^{+/-}$
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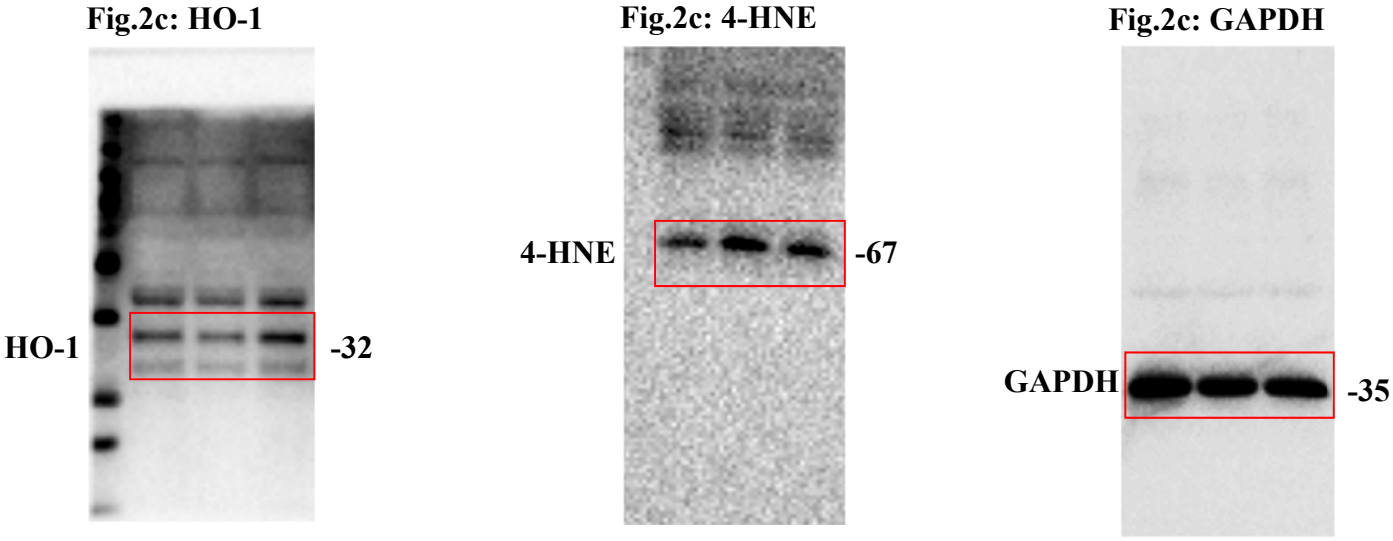
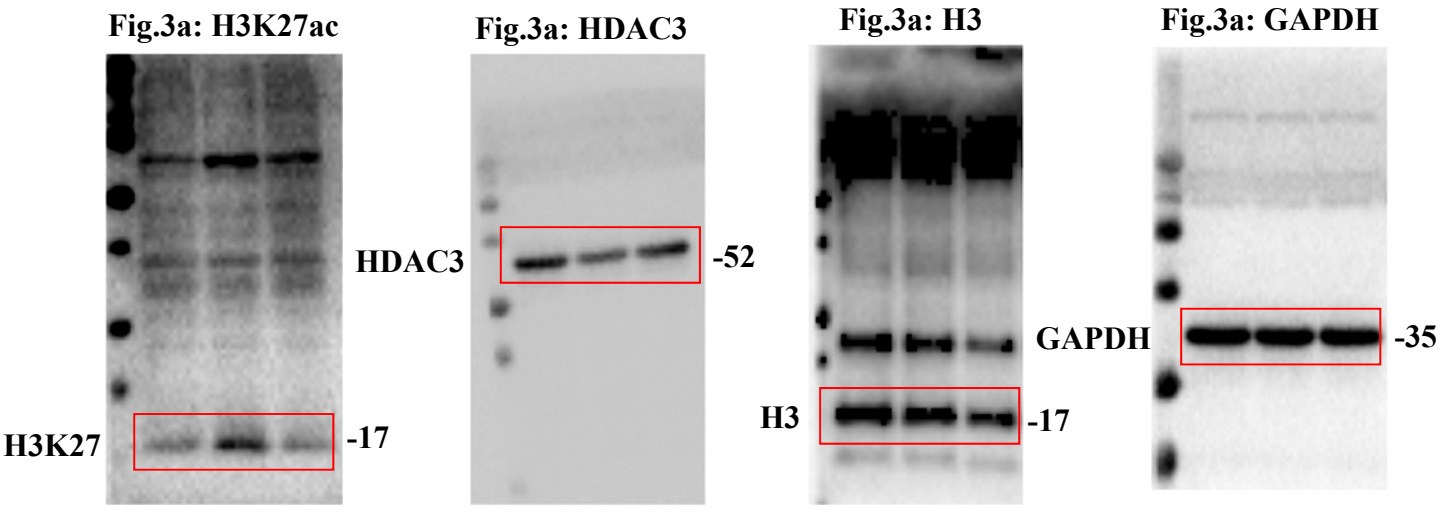
Full-length blots for Figure 2

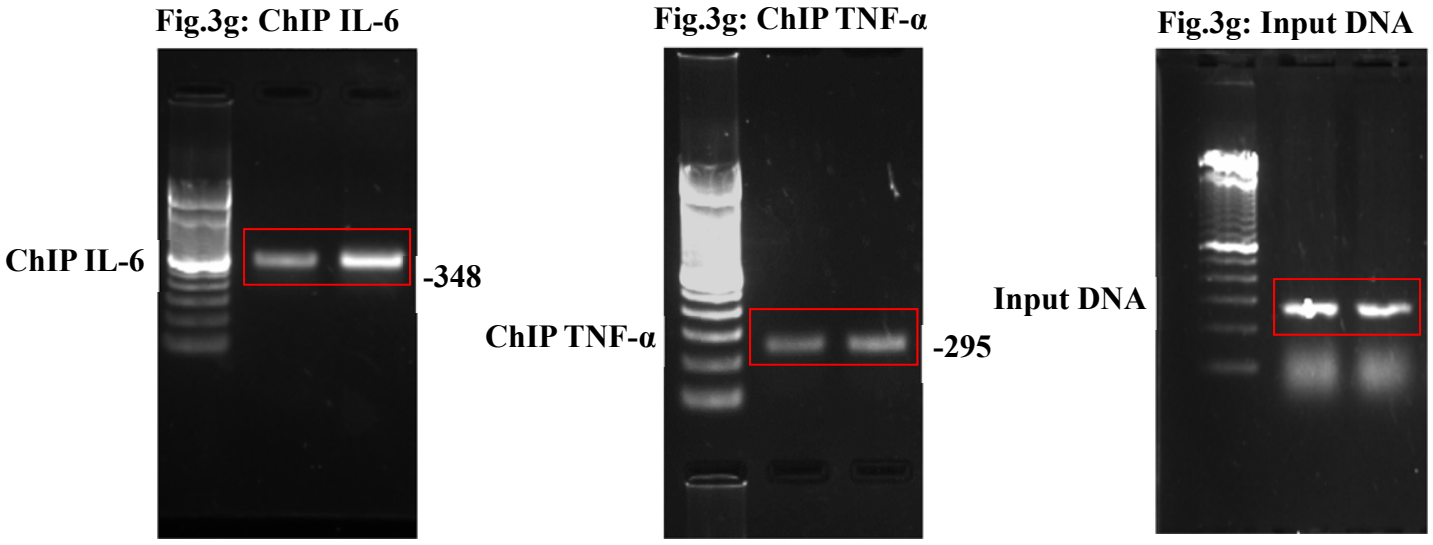


Supplementary Fig. S3: Uncropped gels/blots for main Fig.2c. Boxed regions are used in the main figures. For some data, transferred membranes were horizontally cut for applying multiple antibodies. Lanes for unrelated samples are deleted. Lanes from left to right in red box: WT, *CBS*$^{+/-}$, *CBS*$^{+/-}$+NaHS.

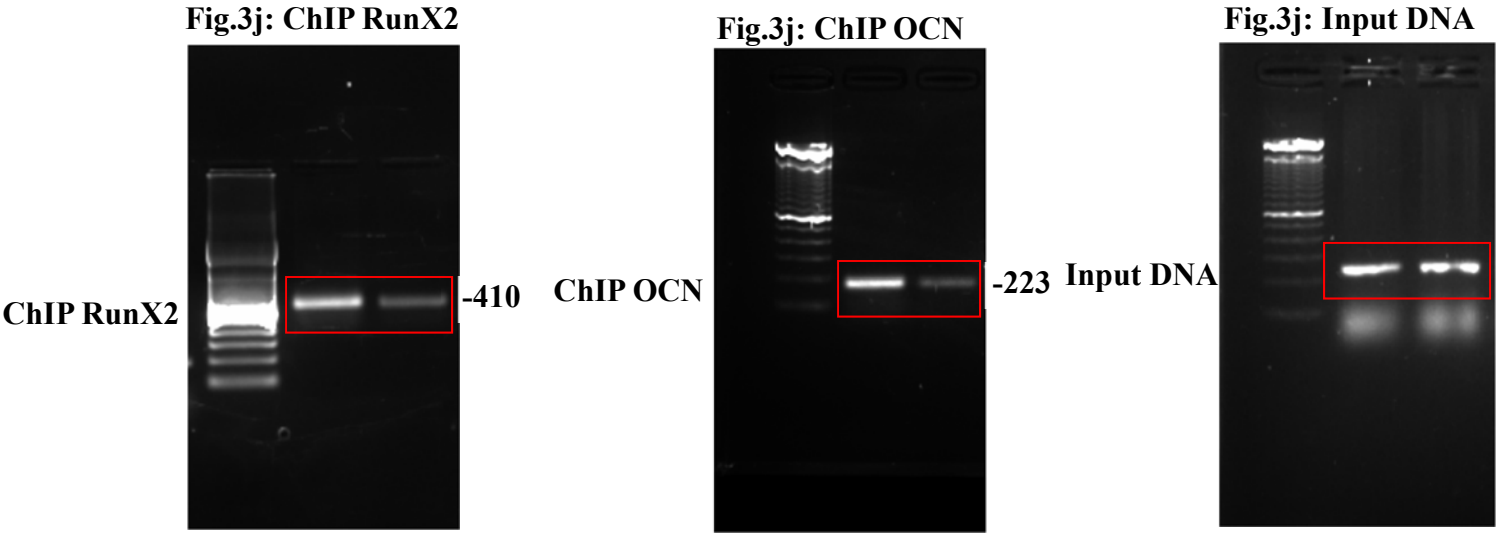
Full-length blots for Figure 3



Supplementary Fig. S4: Uncropped gels/blots for main Fig.3a. Boxed regions are used in the main figures. For some data, transferred membranes were horizontally cut for applying multiple antibodies. Lanes for unrelated samples are deleted. Lanes from left to right in red box: WT, *CBS*$^{+/-}$, *CBS*$^{+/-}$+NaHS.

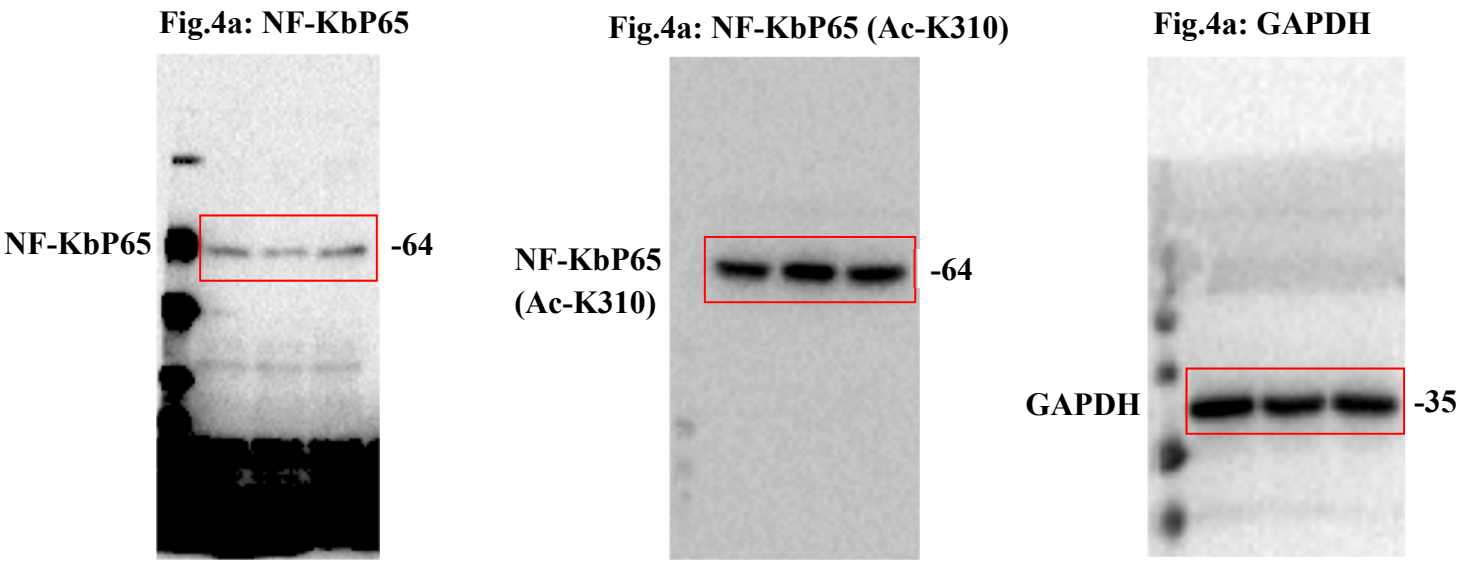


Supplementary Fig. S5: Uncropped gels/blots for main Fig.3g. Boxed regions are used in the main figures. For some data, transferred membranes were horizontally cut for applying multiple antibodies. Lanes for unrelated samples are deleted. Lanes from left to right in red box: WT, *CBS*$^{+/-}$, *CBS*$^{+/-}$+NaHS.



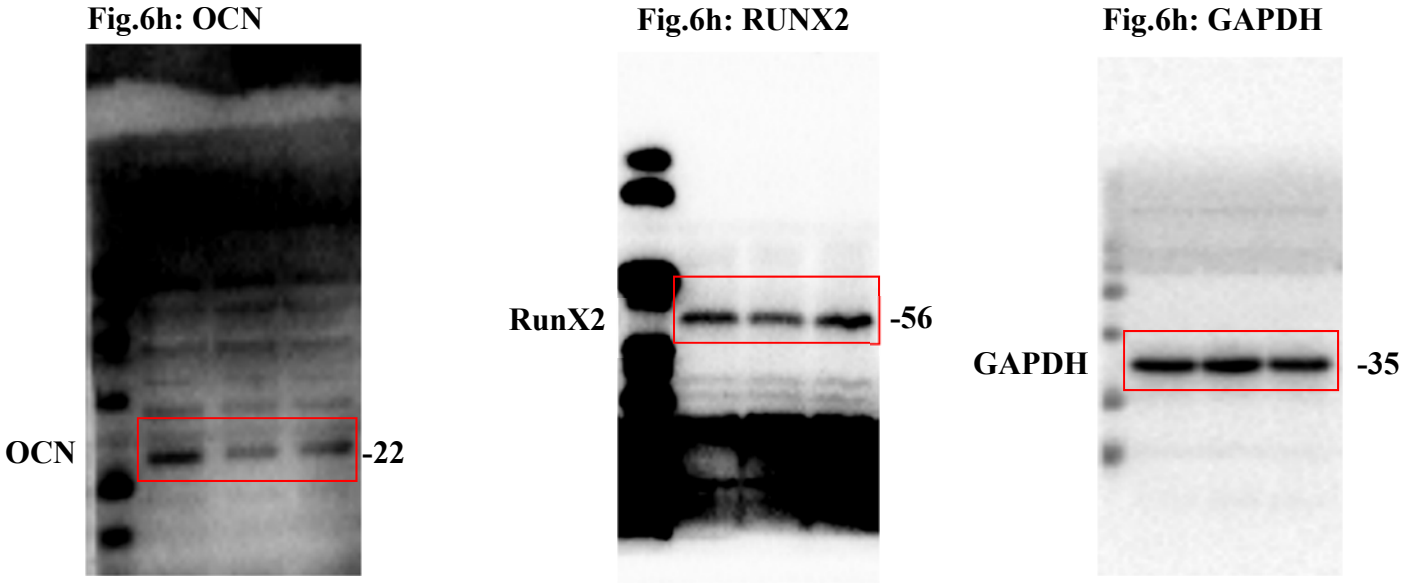
Supplementary Fig. S6: Uncropped gels/blots for main Fig.3j. Boxed regions are used in the main figures. For some data, transferred membranes were horizontally cut for applying multiple antibodies. Lanes for unrelated samples are deleted. Lanes from left to right in red box: WT, *CBS*$^{+/-}$, *CBS*$^{+/-}$+NaHS.

Full-length blots for Figure 4



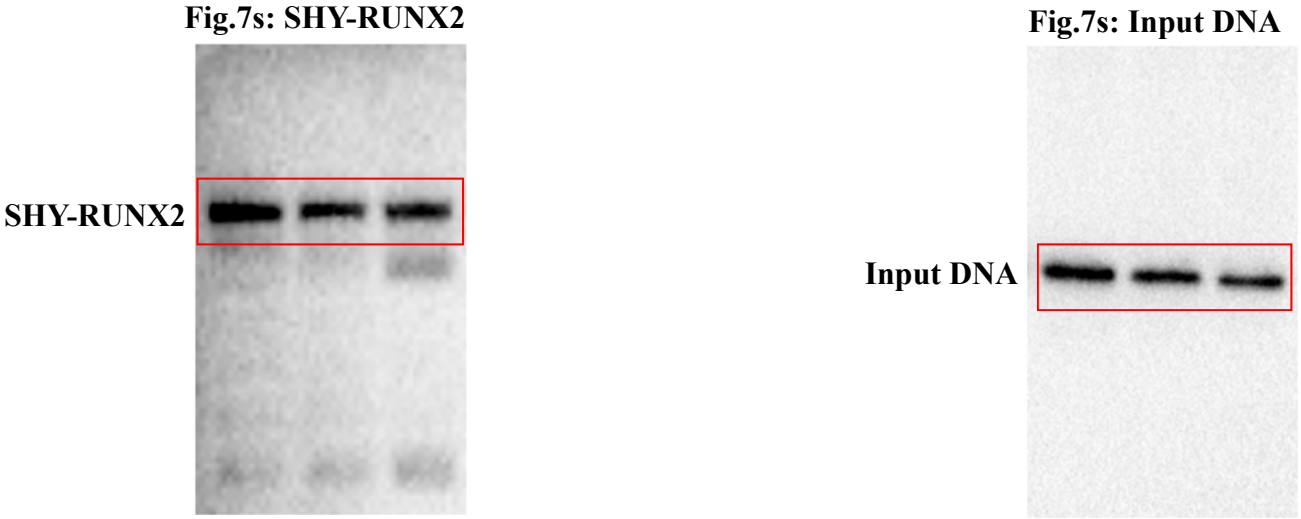
Supplementary Fig. S7: Uncropped gels/blots for main Fig.4a. Boxed regions are used in the main figures. For some data, transferred membranes were horizontally cut for applying multiple antibodies. Lanes for unrelated samples are deleted. Lanes from left to right in red box: WT, *CBS*$^{+/-}$, *CBS*$^{+/-}$+NaHS.

Full-length blots for Figure 6



Supplementary Fig. S8: Uncropped gels/blots for main Fig.6h. Boxed regions are used in the main figures. For some data, transferred membranes were horizontally cut for applying multiple antibodies. Lanes for unrelated samples are deleted. Lanes from left to right in red box: WT, *CBS*$^{+/-}$, *CBS*$^{+/-}$+NaHS.

Full-length blots for Figure 7



Supplementary Fig. S9: Uncropped gels/blots for main Fig.7s. Boxed regions are used in the main figures. For some data, transferred membranes were horizontally cut for applying multiple antibodies. Lanes for unrelated samples are deleted. Lanes from left to right in red box: WT, *CBS*$^{+/-}$, *CBS*$^{+/-}$+NaHS.

Fig.7u: SHY-RUNX2

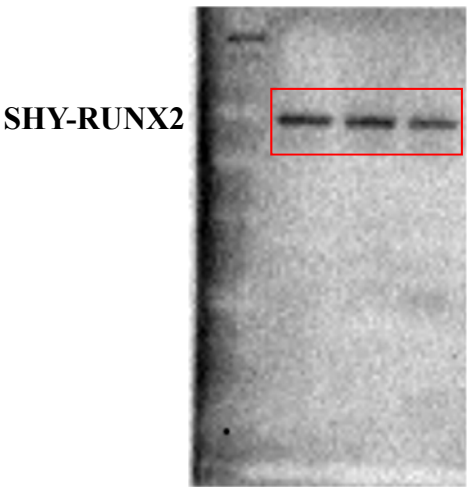
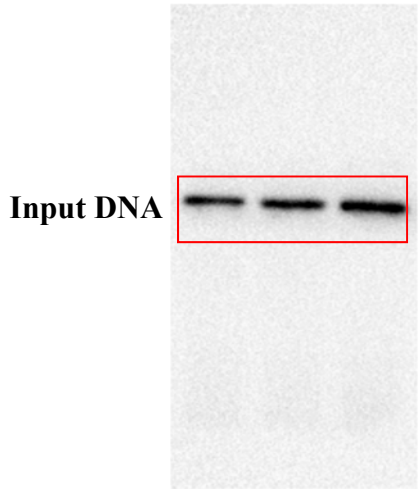


Fig.7u: Input DNA



Supplementary Fig. S10: Uncropped gels/blots for main Fig.7u. Boxed regions are used in the main figures. For some data, transferred membranes were horizontally cut for applying multiple antibodies. Lanes for unrelated samples are deleted. Lanes from left to right in red box: NaHS, NaHS + DTT, DTT.