

Supplementary

Table S1. Primer sequence using for sanger sequencing and qPCR

Primer	F-sequence	R-sequence
16 S	AGAGTTTGATCMTGGCTCAG	TACGGYTACCTTGTTACGACTT
Hmgcr	AGAGCGAGTGCATTAGCAAAG	GATTGCCATTCCACGAGCTAT
Apoa1	CTTGGCACGTATGGCAGCA	CCAGAAGTCCCGAGTCAATGG
Pltp	CGCAAAGGGCCACTTTTACTA	TAGACCTGTTCGGATGGACAC

Hmgcr: 3-hydroxy-3-methyl glutaryl-coenzyme A reductase. Apoa1: apolipoprotein A1. Pltp: phospholipid transfer protein.

Table S2. Genome assembly statistics for MacFasB02

Number of chromosomes	Total assembly size (bp)	GC content (%)	Sequencing depth (×)
1	2017974	39.01	72.27

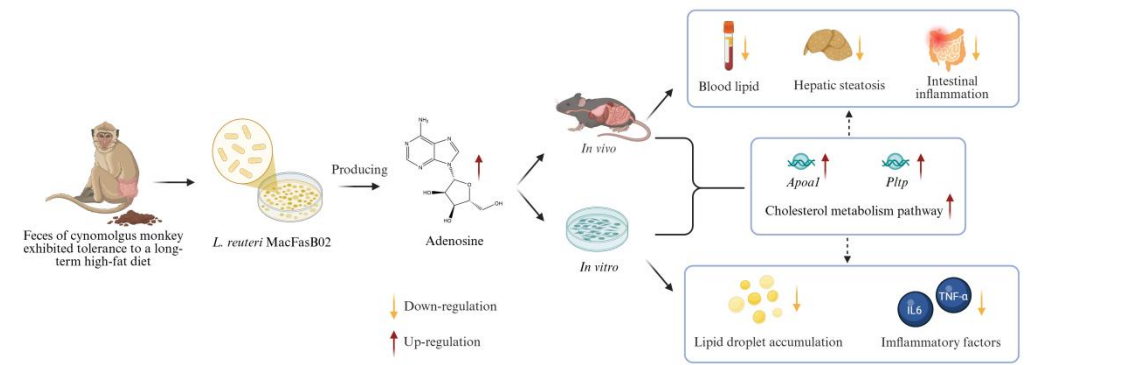


Figure S1. The schematic diagram of the underlying mechanism of MacFasB02

MacFasB02, isolated from cynomolgus monkeys exhibiting tolerance to long-term HFD, alleviating lipid and inflammatory disorders *in vivo* by producing adenosine to regulate *Apoa1* and *Pltp*, the underlying mechanism was also validated in hepatocyte *in vitro*. This figure was created in BioRender (<https://BioRender.com>).

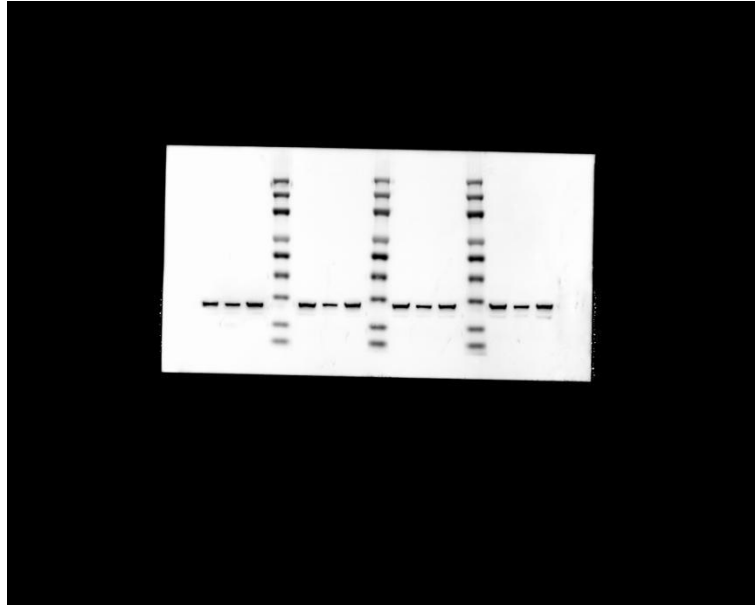


Figure S2. Full and uncropped image for ApoA1 from mouse liver tissue

This image includes more than three independent experiments merged with molecular weight markers.

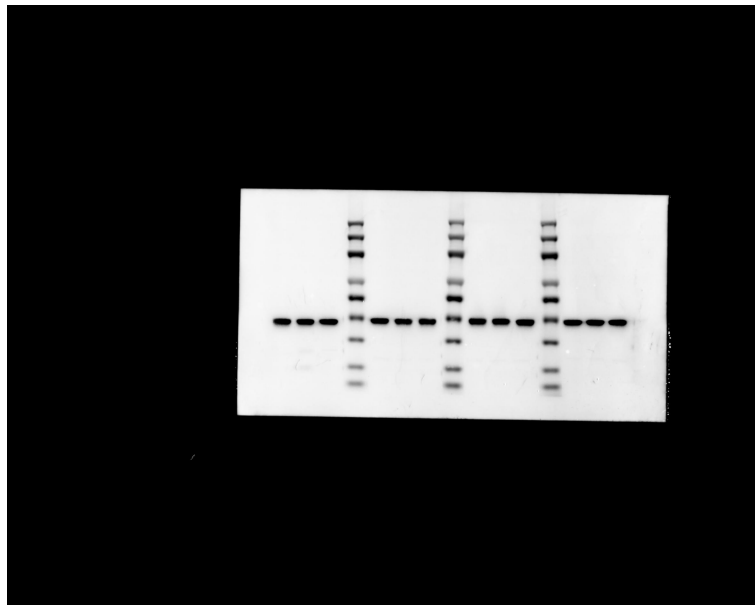


Figure S3. Full and uncropped image for Actin (ApoA1 control) from mouse liver tissue

This gel blot image is the control corresponds to the ApoA1 blot in Figure S2. This image includes more than three independent experiments merged with molecular weight markers.

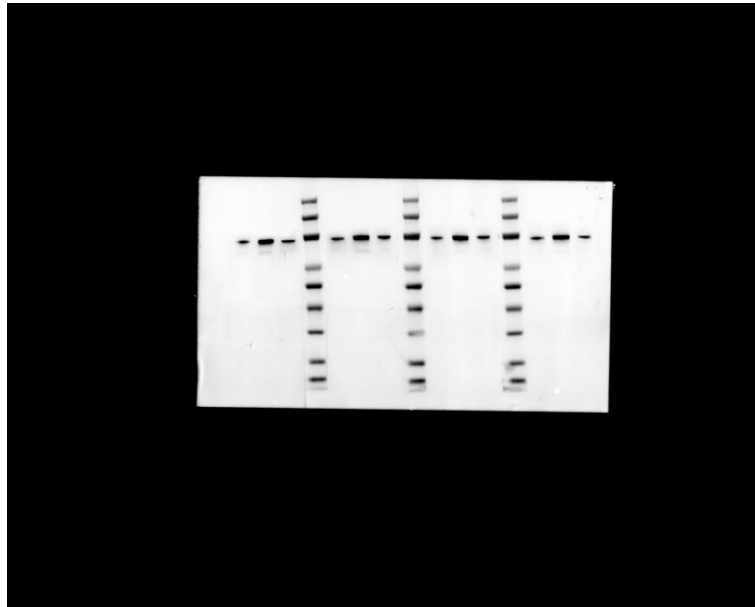


Figure S4. Full and uncropped image for Hmgcr from mouse liver tissue

This image includes more than three independent experiments merged with molecular weight markers.

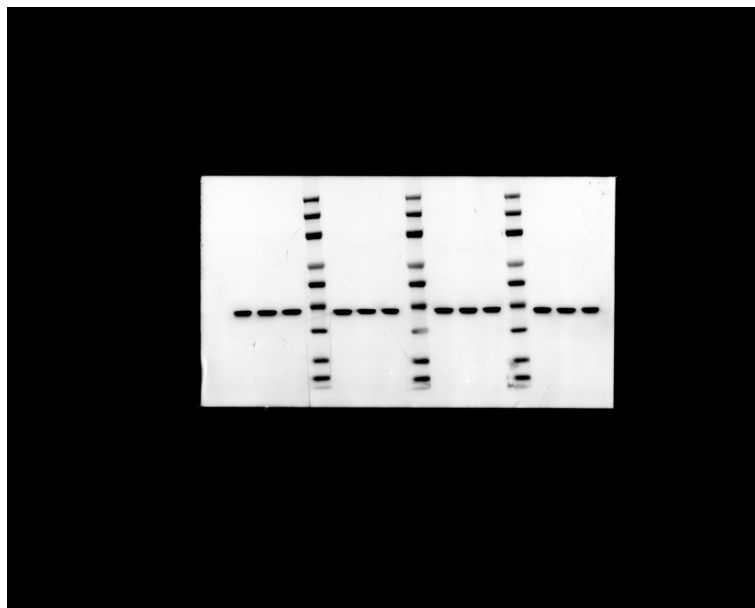


Figure S5. Full and uncropped image for Actin (Hmgcr control) from mouse liver tissue

This gel blot image is the control corresponds to the Hmgcr blot in Figure S4. This image includes more than three independent experiments merged with molecular weight markers.

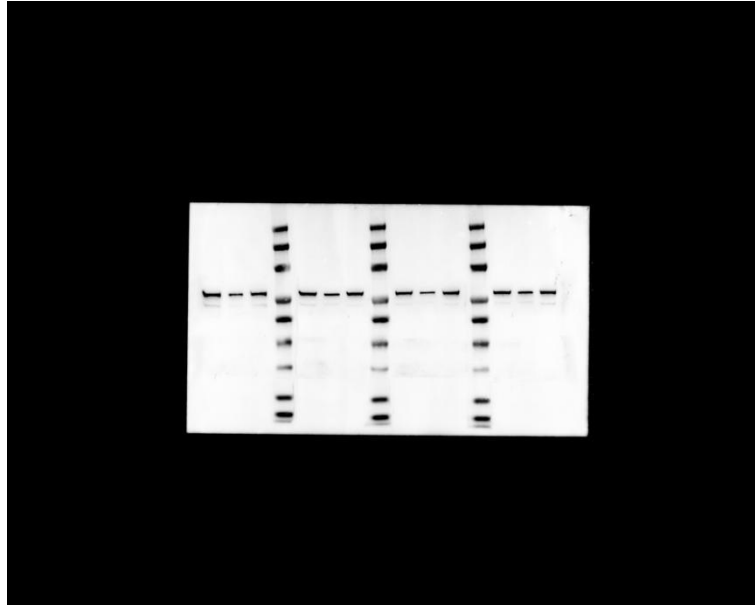


Figure S6. Full and uncropped image for Pltp from mouse liver tissue

This image includes more than three independent experiments merged with molecular weight markers.

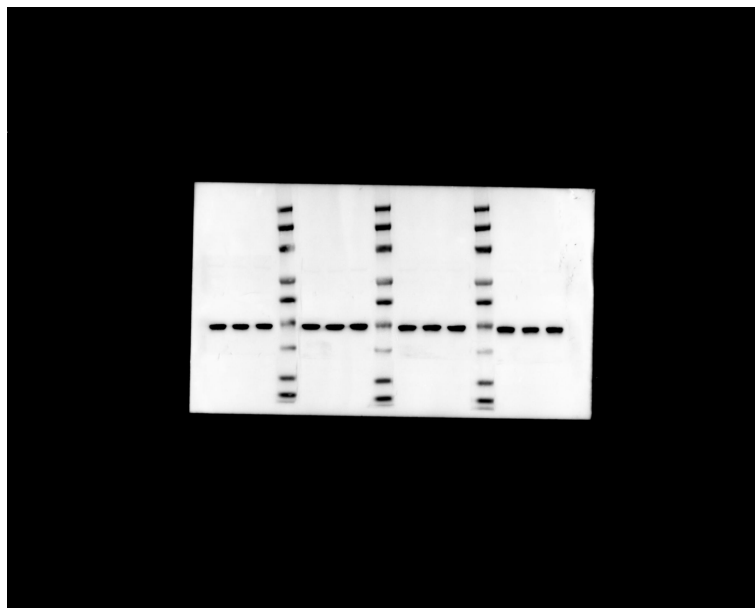


Figure S7. Full and uncropped image for Actin (Pltp control) from mouse liver tissue

This gel blot image is the control corresponds to the Pltp blot in Figure S6. This image includes more than three independent experiments merged with molecular weight markers.

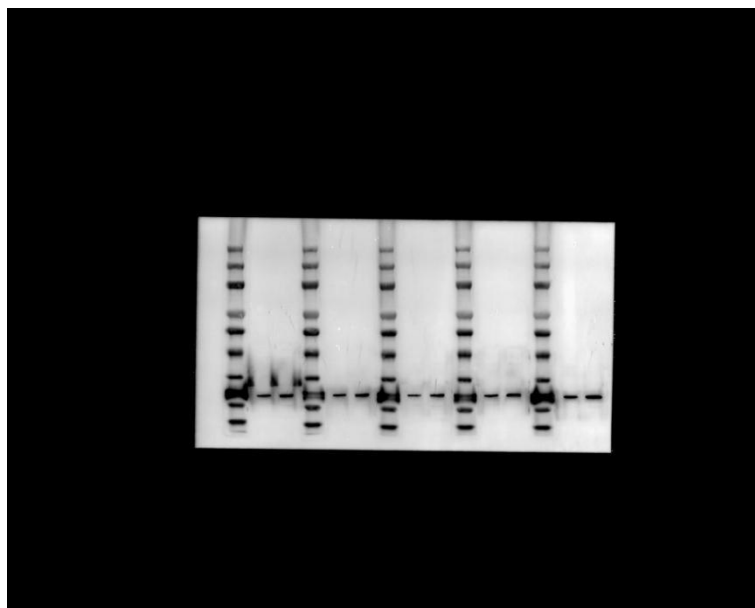


Figure S8. Full and uncropped image for ApoA1 from cell

This image includes more than three independent experiments merged with molecular weight markers.

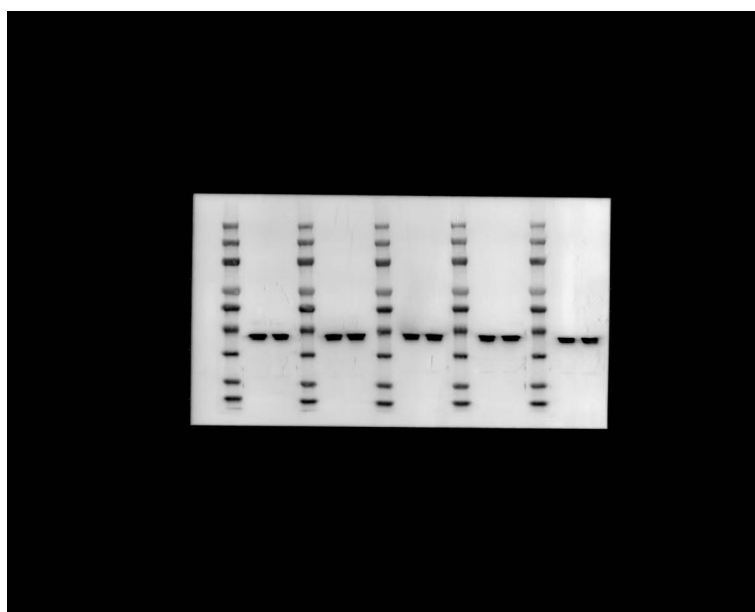


Figure S9. Full and uncropped image for Actin (ApoA1 control) from cell

This gel blot image is the control corresponds to the ApoA1 blot in Figure S8. This image includes more than three independent experiments merged with molecular weight markers.

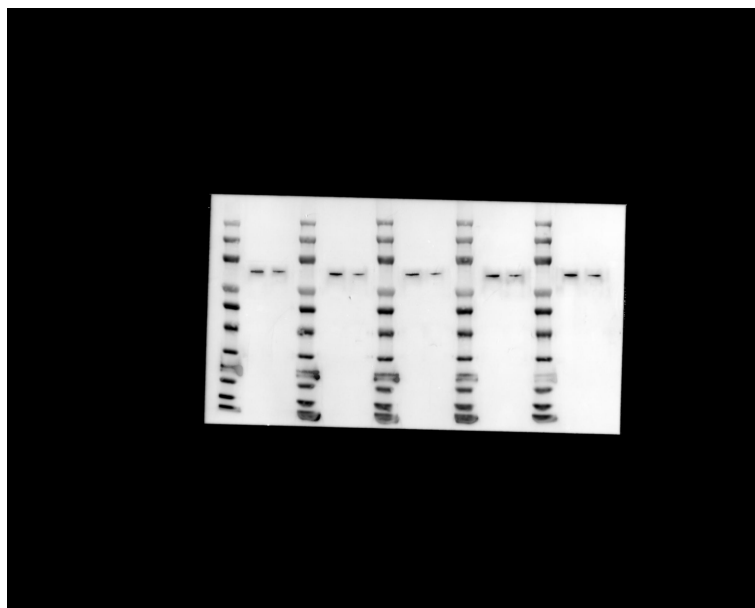


Figure S10. Full and uncropped image for Hmgcr from cell

This image includes more than three independent experiments merged with molecular weight markers.

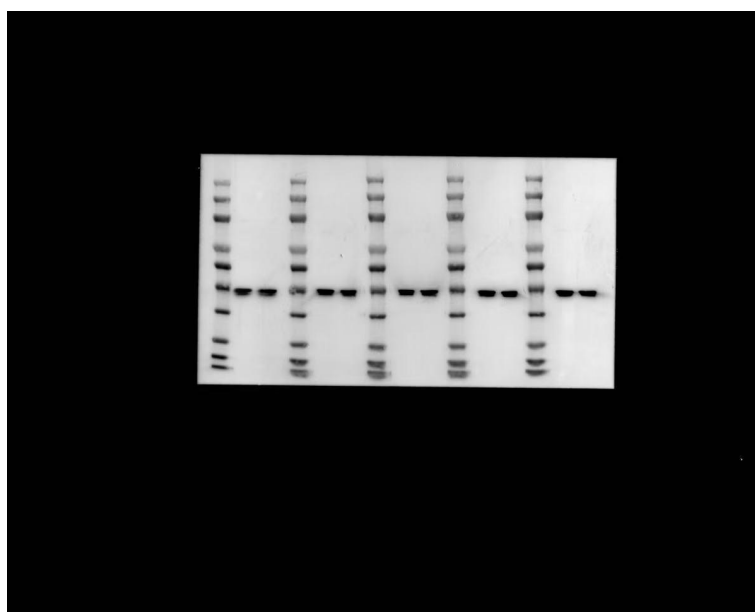


Figure S11. Full and uncropped image for Actin (Hmgcr control) from cell

This gel blot image is the control corresponds to the Hmgcr blot in Figure S10. This image includes more than three independent experiments merged with molecular weight markers.

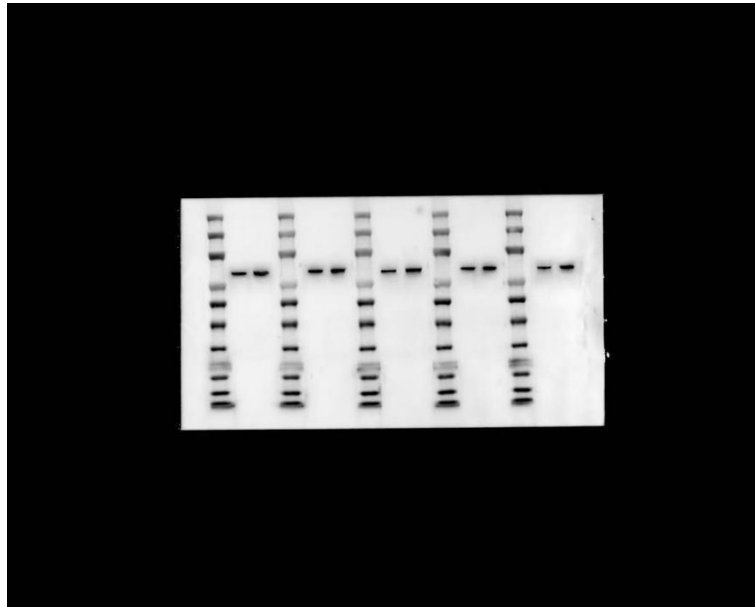


Figure S12. Full and uncropped image for Pltp from cell

This image includes more than three independent experiments merged with molecular weight markers.

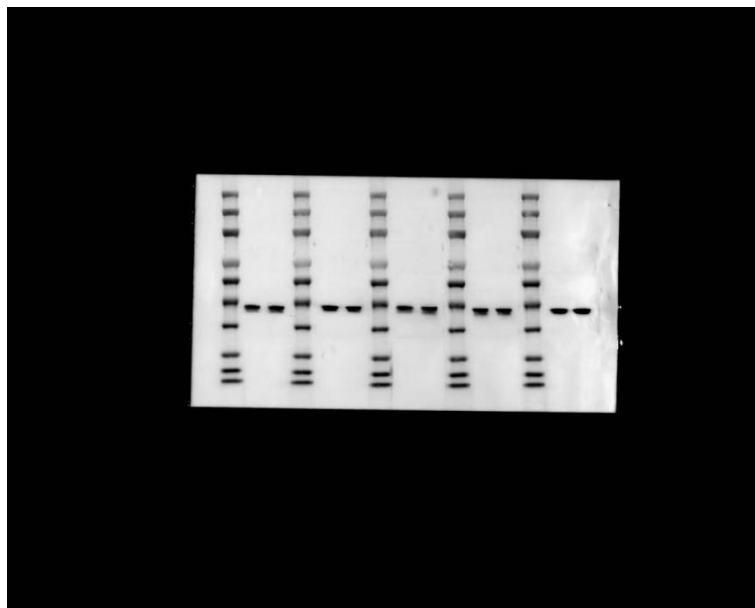


Figure S13. Full and uncropped image for Actin (Pltp control) from cell

This gel blot image is the control corresponds to the Pltp blot in Figure S12. This image includes more than three independent experiments merged with molecular weight markers.