

Comparative proteomic analysis of liver tissues and serum in *db/db* mice

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Supplementary Materials

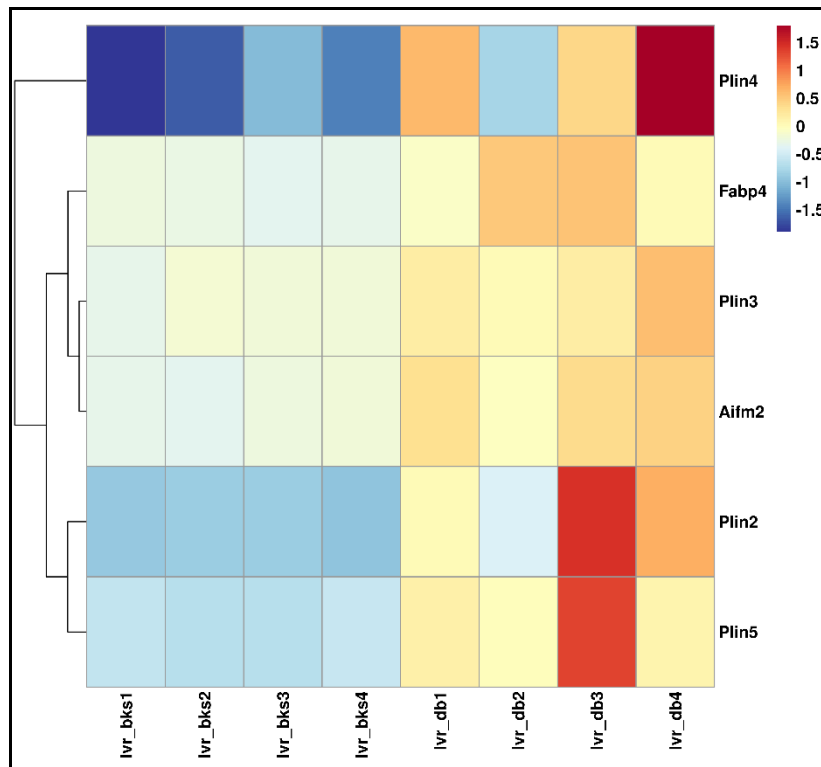


Figure S1. The heatmap of the upregulated lipid droplets related markers in the livers of *db/db* and *bks* mice.

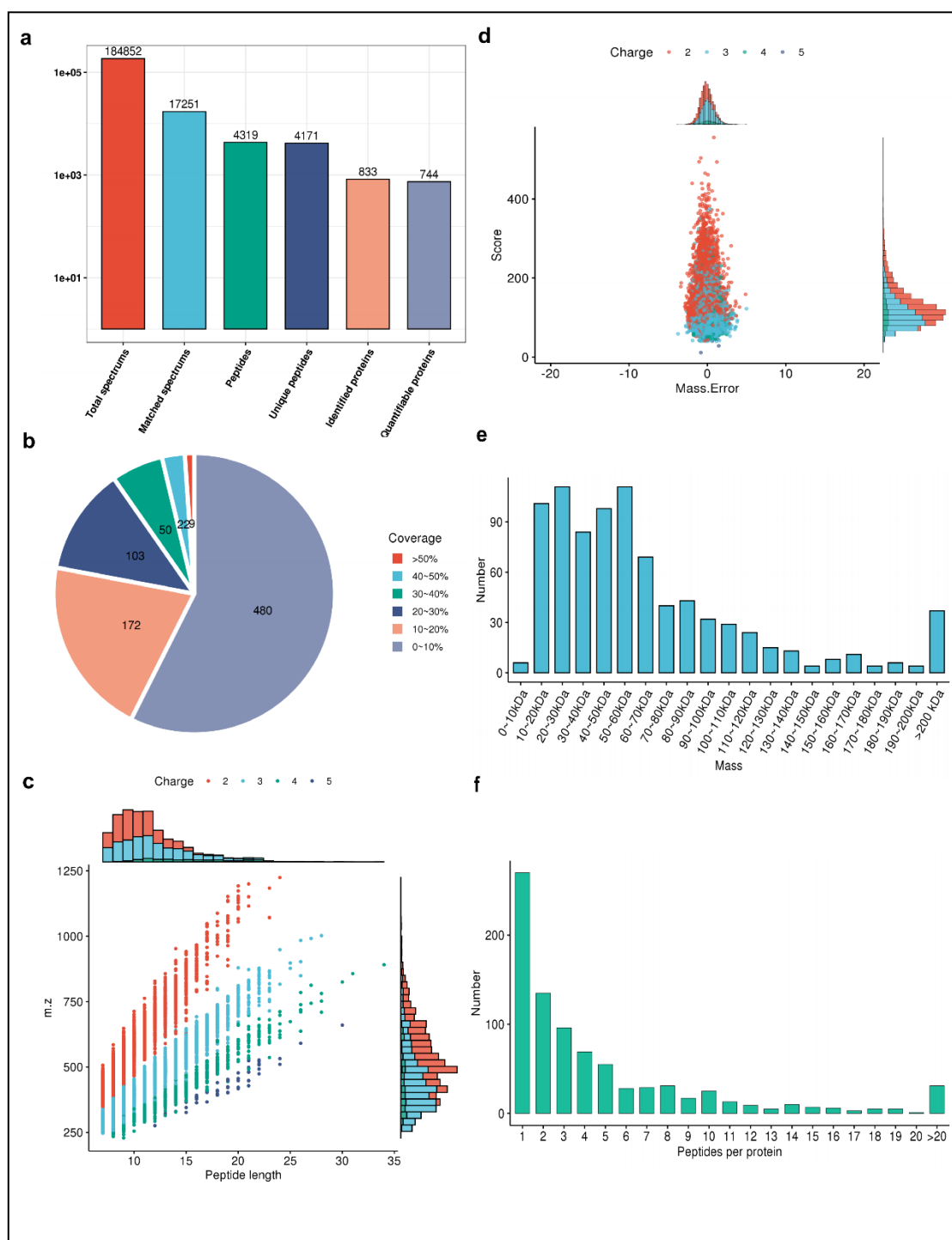


Figure S2. Quantitative protein filtering and data quality control of the serum samples. (a) Results of quantitative proteins filtered from search database; (b) Quality control of protein coverage distribution; (c) Peptide length distribution; (d) Tolerance distribution of parent ion mass; (e) Peptide number distribution; (f) Protein molecular weight distribution.

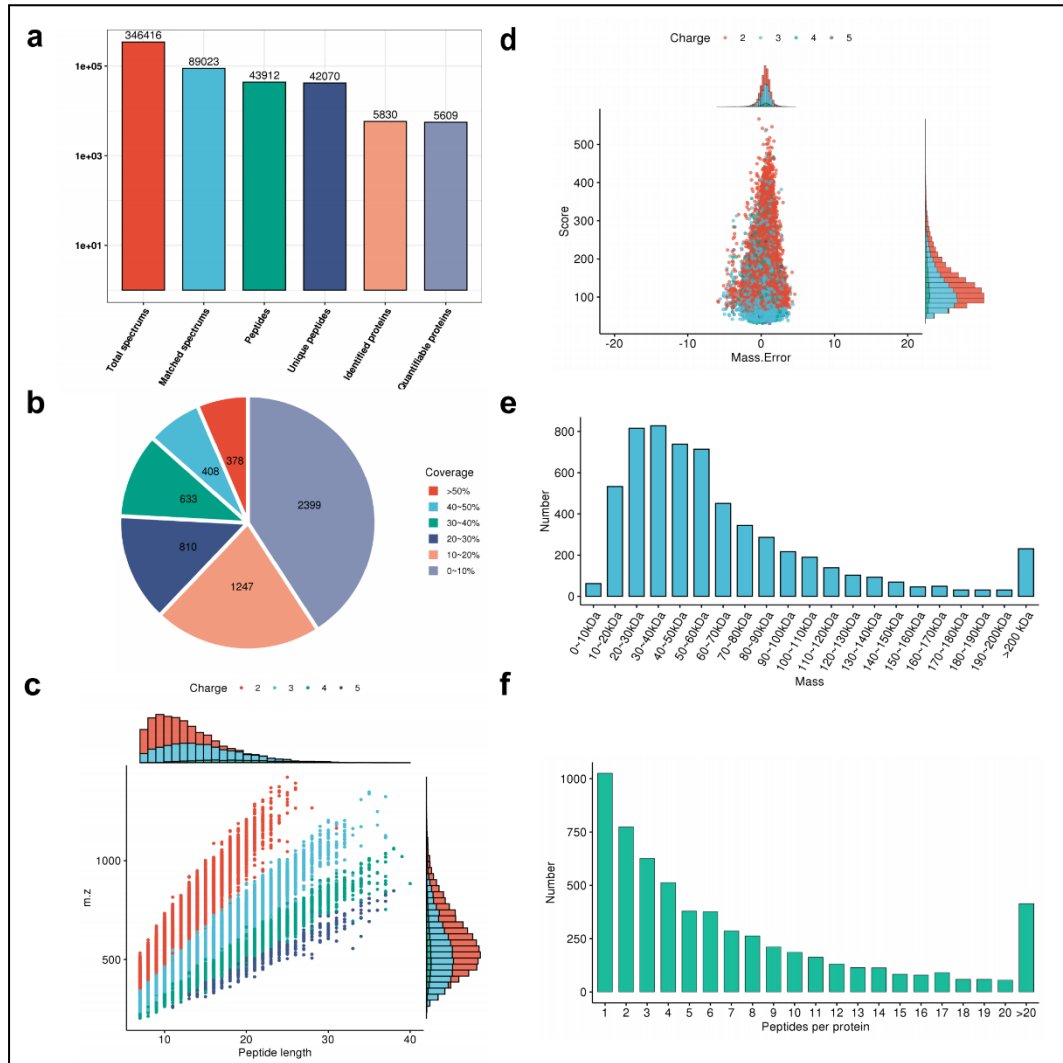


Figure S3. Quantitative protein filtering and data quality control of the liver samples. (a) Results of quantitative proteins filtered from search database; (b) Quality control of protein coverage distribution; (c) Peptide length distribution; (d) Tolerance distribution of parent ion mass; (e) Peptide number distribution; (f) Protein molecular weight distribution.

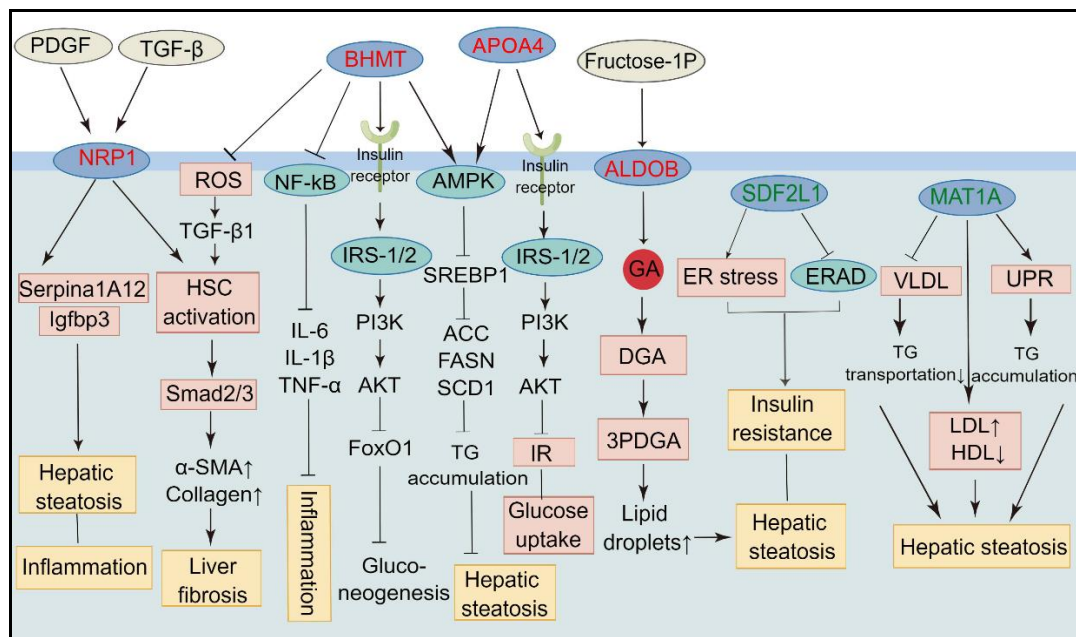


Figure S4. Graphical pathway of how the major DEP markers that are upregulated and downregulated connect to NAFLD. Abbreviations: GA: D-glyceraldehyde. DGA: D-glyceric acid. 3PDGA: 3-phospho-D-glyceric acid. VLDL: Very low-density lipoprotein. UPR: Unfolded protein response. ERAD: Endoplasmic reticulum-associated protein degradation. IR: Insulin resistance. ACC: Acetyl CoA carboxylase. FASN: Fatty acid synthetase. SCD1: Stearoyl-CoA desaturase 1. SREBP1: Sterol regulatory element binding protein 1. IRS-1/2: Insulin receptor substrate-1/2. HSC: Hepatic stellate cells. AMPK: AMP-activated protein kinase. PI3K: Phosphoinositide 3-kinase. AKT: Protein Kinase B. Protein name in red represents DEPs were upregulated while in green means downregulated in the pathway involved in NAFLD. The figure is constructed by Figdraw (www.figdraw.com).

Table S1. DEPs related to lipid droplets generated by mice liver global proteomics

Protein accession	Protein description	Gene name	lvr_db/lvr_bks Ratio	lvr_db/lvr_bks P value	Regulated Type
P04117	Fatty acid-binding protein, adipocyte OS=Mus musculus OX=10090 GN=Fabp4 PE=1 SV=3	<i>Fabp4</i>	1.484	*	Up
O88492	Perilipin-4 OS=Mus musculus OX=10090 GN=Plin4 PE=1 SV=2	<i>Plin4</i>	4.853	*	Up
P43883	Perilipin-2 OS=Mus musculus OX=10090 GN=Plin2 PE=1	<i>Plin2</i>	2.861	*	Up

	SV=2				
	Perilipin-3 OS=Mus musculus				
	OX=10090 GN=Plin3 PE=1				
Q9DBG5	SV=1	<i>Plin3</i>	1.381	*	Up
	Perilipin-5 OS=Mus musculus				
	OX=10090 GN=Plin5 PE=1				
Q8BVZ1	SV=1	<i>Plin5</i>	2.233	*	Up
	Ferroptosis suppressor protein				
	1 OS=Mus musculus				
	OX=10090 GN=Aifm2 PE=1				
Q8BUE4	SV=1	<i>Aifm2</i>	1.472	**	Up

Note: * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

Table S2. The serum DEPs related to liver damage

Protein accessio n	Protein description	Gene name	srm_db/srm_bks Ratio	srm_db/srm _bks P value	Regulate d Type
	Aspartate aminotransferase, cytoplasmic OS=Mus musculus OX=10090				
P05201	GN=Got1 PE=1 SV=3	<i>Got1</i>	1.967	*	Up
	Alanine aminotransferase 2 OS=Mus musculus				
	OX=10090 GN=Gpt2 PE=1				
Q8BGT5	SV=1	<i>Gpt2</i>	1.417	**	Up
	Alkaline phosphatase, tissue-nonspecific isozyme OS=Mus musculus				
	OX=10090 GN=Alpl PE=1				
P09242	SV=2	<i>Alpl</i>	1.485	**	Up

Note: * $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

Table S3. Sequences of primers

Gene name	Species	Sense sequence	Anti-sense sequence
<i>Nrp1</i>	Mouse	GTGAGCCCTGTGGTCTAT TC	GGCTTCTGGTAGCGTA GTTT
<i>Mup3</i>	Mouse	CTATGGCCGAGAACCAG ATTT	GCAGCGATTGACATTG GTTAG
<i>Serpina1e</i>	Mouse	ACAGCCTTTGCTATGCTC TC	GATGTCAGCCTCCGAT GTTT

<i>Igfbp2</i>	Mouse	GAACATGTTGGGAGGTG GTAG	TGCCGGTGCTGTTTCATT
<i>Alpl</i>	Mouse	GCCATGACATCCCAGAA AGA	GCCAGACCAAAGATGG AGTT
<i>Aldob</i>	Mouse	CCAGCCTTGCTATCCAAG AA	GCACCTCTGGCTCAAC AATA
<i>GAPDH</i>	Mouse	AACAGCAACTCCCCTC TTC	CCTGTTGCTGTAGCCGT ATT
<i>β-Actin</i>	Mouse	GAGGTATCCTGACCCTGA AGTA	CACACGCAGCTCATTG TAGA