

# ***Tremella fuciformis* Berk alleviated atherosclerosis symptoms via NF-κB-mediated inflammatory response in ApoE<sup>-/-</sup> mice.**

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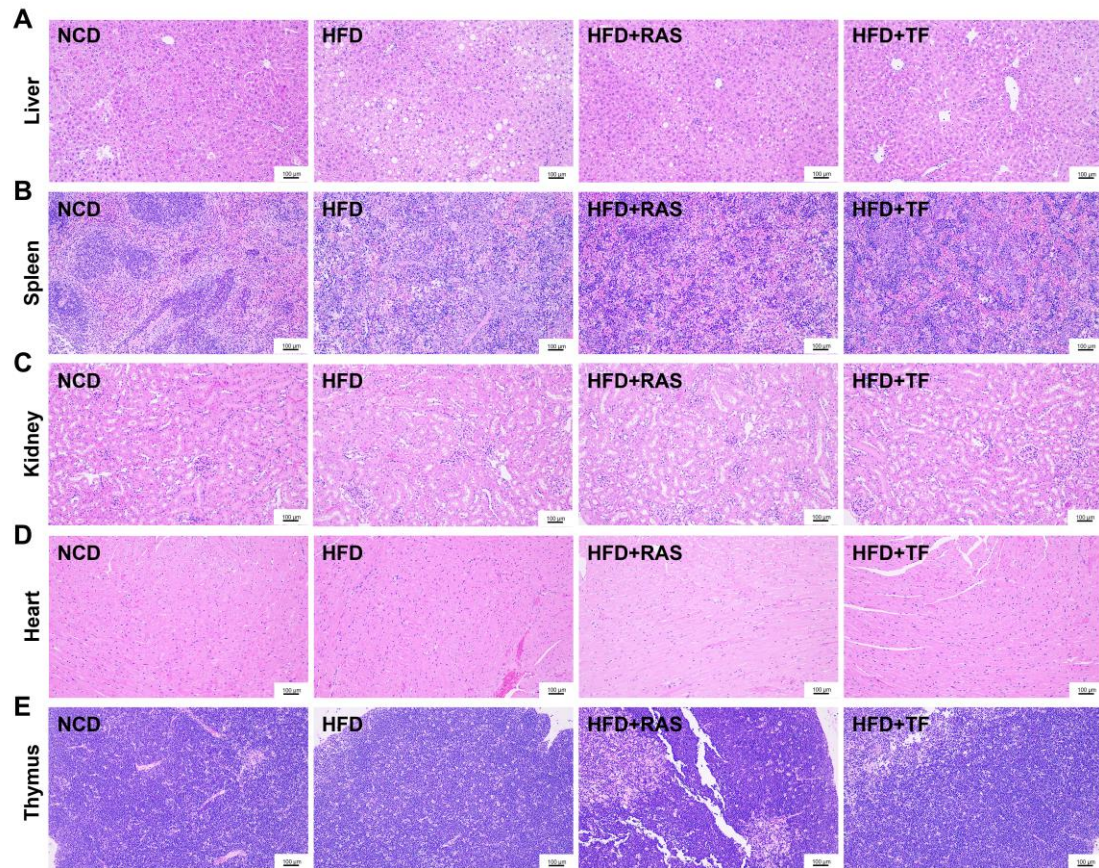
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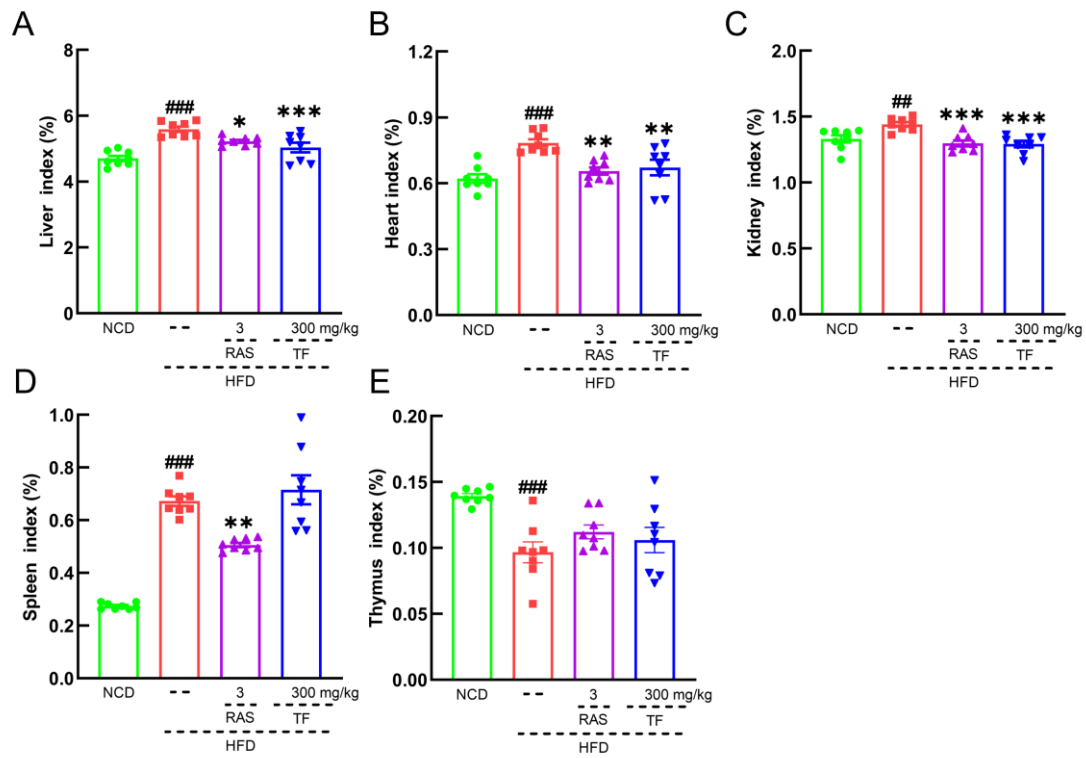
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## Supplementary Figures



**Figure S1.** H&E staining of liver (A), spleen (B), kidney (C), heart (D), and thymus (E) (100 $\times$ ; scale bar: 100  $\mu$ m).



**Figure S2.** The effect of *T. fuciformis* on organ indexes in HFD-induced ApoE<sup>-/-</sup> mice. The indexes of the liver (A), heart (B), kidney (C), spleen (D), and thymus (E). All data are expressed as mean  $\pm$  S.E.M. ##  $p < 0.01$ , ###  $p < 0.001$  vs NCD mice. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$  vs HFD-induced ApoE<sup>-/-</sup> mice.

## Supplementary Tables

**Table S1.** Details of HFD and NCD ingredients.

	NCD	HFD
Fat (kcal%)	10	40
Protein (kcal%)	20	17
Carbohydrate (kcal%)	60	43
cholesterol (%)	--	0.21

**Table S2.** Details of antibodies used in western blot and immunofluorescence.

Antibody	Molecular weight	Catalog number	Dilution for Western Blot	Dilution for Immunofluorescence	Company	Area
NLRP3	105 kDa	BA3677	--	1:200	Boster	Wuhan, China
GPR91	38 kDa	AF5316	1:1000	--	Affinity	Cincinnati, OH, USA
HIF-1 $\alpha$	120 kDa	A16873	1:1000	--	ABclonal	Wuhan, China
P-NF- $\kappa$ B	65 kDa	AF3387	1:1000	--	Affinity	Cincinnati, OH, USA
T-NF- $\kappa$ B	65 kDa	AF5006	1:1000	--	Affinity	Cincinnati, OH, USA
P-IKK $\alpha$ + $\beta$	85 kDa	2697S	1: 1000	--	Cell Signaling	Beverly, MA, USA
T-IKK $\alpha$ + $\beta$	85 kDa	AF6014	1: 1000	--	Affinity	Cincinnati, OH, USA
P-IKB $\alpha$	36 kDa	ab133462	1:25000	--	Abcam	Cambridge, MA, USA
T-IKB $\alpha$	36 kDa	AF7776	1:1000	--	Affinity	Cincinnati, OH, USA
GAPDH	36 kDa	E-AB-40337	1:1000	--	Elabscience	Wuhan, China
NLRP3	105 kDa	A12694	1:2000	--	ABclonal	Wuhan, China
IL-6	24 kDa	DF6087	1:1000	--	Affinity	Cincinnati, OH, USA
IL-1 $\beta$	35 kDa	AF5103	1:1000	--	Affinity	Cincinnati, OH, USA
TNF- $\alpha$	25 kDa	AF7014	1:500	--	Affinity	Cincinnati, OH, USA
IL-10	30 kDa	DF6894	1:1000	--	Affinity	Cincinnati, OH, USA
goat anti-rabbit	--	5220-0336	1:5000	1:400	SeraCare	Massachusetts, USA

**Table S3.** Details of commercially available test kits.

Cytokines	Catalog number	Company	Area
TC	A111-1-1	Nanjing Jiancheng Biotechnology Research Institute	Jiangsu, China
TG	A110-1-1	Nanjing Jiancheng Biotechnology Research Institute	Jiangsu, China
LDL-C	A113-1-1	Nanjing Jiancheng Biotechnology Research Institute	Jiangsu, China
HDL-C	A112-1-1	Nanjing Jiancheng Biotechnology Research Institute	Jiangsu, China

**Table S4.** Details of primer 341F-806R

<b>Amplified Region/Primers Name</b>	<b>Forward primer sequences</b>	<b>Reverse primer sequences</b>
V3-V4 region / 341F-806R	CCTAYGGGRBGCASCAG	GGACTACNNGGGTATCTAAT

**Table S5.** Relative abundance (log10) of top 10 phylum among NCD, HFD, and HFD+TF groups.

Taxa	NCD	HFD	HFD+TF
p__Firmicutes	0.522357494	0.499754852	0.475164626
p__Bacteroidota	0.354110565	0.078315343	0.123943789
p__Verrucomicrobiota	0.006373847	0.213014716	0.207395171
p__Actinobacteriota	0.010205698	0.132481727	0.037048268
p__Proteobacteria	0.030677438	0.040626674	0.098173836
p__Desulfobacterota	0.032951657	0.016100563	0.036455387
p__Campilobacterota	0.014886138	0.004623868	0.0158177
p__Patescibacteria	0.024107473	0.001829181	0.000158403
Unassigned p__uncultured	0.000358293	0.005868465	$4.53 \times 10^{-5}$
p__Deferribacterota	0.002930461	0.000196118	0.003616121

Data are presented as the mean.



**Table S6.** Relative abundance (log10) of the top 30 genus among NCD, HFD, and HFD+TF groups.

<b>Taxa</b>	<b>NCD</b>	<b>HFD</b>	<b>HFD+TF</b>
<i>Bifidobacterium</i>	0.000377	0.013336	0.00836822
<i>Roseburia</i>	0.006517	0.013604	0.005756828
<i>Faecalibaculum</i>	0.000155	0.022908	0.004942183
f__Atopobiaceae   g__uncultured	0.003432	0.031715	0.01175805
[ <i>Ruminococcus</i> ] <i>_torques_group</i>	0	0.037609	0.025797108
<i>Lactobacillus</i>	0.012137	0.035441	0.021574529
<i>Coriobacteriaceae_UCG-002</i>	0.000173	0.061615	0.01284877
<i>Dubosiella</i>	0.018778	0.124056	0.037125206
<i>Alistipes</i>	0.009497	0.002772	0.005720622
<i>Helicobacter</i>	0.014886	0.004564	0.0158177
<i>Alloprevotella</i>	0.015018	0.009663	0.014387545
f__Desulfovibrionaceae   g__uncultured	0.024213	0.015244	0.033051979
f__Lachnospiraceae   g__uncultured	0.104369	0.059635	0.084415379
[ <i>Eubacterium</i> ] <i>_xylanophilum_group</i>	0.024149	0	0
<i>Candidatus_Saccharimonas</i>	0.024107	0.001754	0.000158403
<i>Parasutterella</i>	0.019137	0.005721	0.008255075
<i>Clostridia_UCG-014</i>	0.027257	0.008773	0.004000815
f__Oscillospiraceae   g__uncultured	0.031277	0.003741	0.009114978
f__Ruminococcaceae   g__uncultured	0.053714	0.001346	0.002172388
<i>Lachnospiraceae_NK4A136_group</i>	0.142476	0.002961	0.00170623
<i>Muribaculaceae</i>	0.268316	0.011514	0.011300944
<i>Erysipelatoclostridium</i>	0.000343	0.006736	0.011133489
<i>Lachnoclostridium</i>	0.001369	0.007901	0.00968523
[ <i>Clostridium</i> ] <i>_innocuum_group</i>	0	0.004481	0.031621823
<i>Colidextribacter</i>	0.012729	0.010745	0.015048313
<i>Blautia</i>	0.003262	0.025484	0.046398588
<i>Escherichia-Shigella</i>	0.000351	0.012793	0.077776018
[ <i>Eubacterium</i> ] <i>_coprostanoligenes_group</i>	0.006219	0.039514	0.070385373
<i>Bacteroides</i>	0.016764	0.0243	0.079676857
<i>Akkermansia</i>	0.006374	0.212566	0.207395171

Data are presented as the mean.

**Table S7.** The differential metabolites of serum among NCD, HFD, and HFD+TF groups.

Group	NCD	HFD	HFD+TF	NCD vs HFD		HFD vs HFD+TF	
				VIP	<i>P</i> -value	VIP	<i>P</i> -value
Diethyl phthalate	57016.8844	444375.348	39167.8645	1.679	0.001	3.727	0.004
Indolelactic acid	180693.288	622357.813	252641.206	1.683	0.007	3.337	0.027
N-palmitoyltaurine	95146.9121	349411.435	181219.889	1.39	0.000	2.169	0.022
Pseudouridine	633558.255	1776486.47	616402.034	2.327	0.036	5.920	0.012
Succinate	91796.3841	174989.017	82526.3074	1.075	0.027	1.653	0.015
5-aminovaleric acid betaine	8621185.47	21119442.4	13109624.2	2.576	0.000	1.404	0.025
Arachidonoylthiophosphorylcholine	28589053.9	52214191.1	31495357.1	4.268	0.013	4.407	0.037
D-pyroglutamic acid	2828539.98	6990248.42	3967753.47	1.851	0.017	1.858	0.017
L-palmitoylcarnitine	3082604.71	16036106.4	9825240.84	4.320	0.000	2.081	0.031

Data are presented as the mean. Differences were considered statistically significant at  $p < 0.05$  and  $VIP > 1$ .