

Table S2.Models and treatment results are included in this systematic review

Ref.	Country/Region	Animal/Gender	Intervention	Biological processes
miRNA-inhibition therapy				
Alshehri 2021 ^[26]	Saudi Arabia/Asia	rats/male	NAFLD induction	Fat accumulation
Bala 2021 ^[79]	America/North America	C57BL/6、miR-155 KO mice/male	NAFLD induction	Fat accumulation、Fibrosis
Chen 2020 ^[76]	China/Asia			Fat accumulation
Chen 2018 ^[82]	China/Asia	C57BL/6 mice/male	Post NAFLD	Fat accumulation
Cheng 2016 ^[84]	China/Asia			Oxidative stress
Chu 2022 ^[67]	China/Asia	C57BL/6J mice/male	Post NAFLD	Fat accumulation、Inflammation、Fibrosis
Csak 2015 ^[80]	America/North America	C57BL/6、miR-155 KO mice/female	NASH induction	Fat accumulation、Fibrosis
Dai 2019 ^[43]	China/Asia	rats/male	Post NAFLD	Oxidative stress、Fibrosis、Insulin resistance
Ding 2015 ^[27]	China/Asia	C57BL/6 mice/male	Post NAFLD	Fat accumulation
Ding 2022 ^[68]	China/Asia	C57BL/6 mice/male	Post NAFLD	Fat accumulation
Hanin 2018 ^[87]	Israel/Asia	C57BL/6J mice/male	Post NASH	Fat accumulation

Hu 2022 ^[71]	China/Asia	C57BL/6J mice/male	Post NAFLD	Oxidative stress、 Inflammation
Lee A 2021 ^[28]	China/Asia			Fat accumulation
Lee D 2021 ^[90]	South Korea/Asia	C57BL/6J mice/male	Post NAFLD	Fat accumulation
Lee Y 2021 ^[19]	South Korea/Asia	C57BL/6J mice/male	NAFLD induction	Insulin resistance
Lei 2018 ^[91]	China/Asia			Fat accumulation
Liu 2020 ^[23]	China/Asia	C57BL/6 mice/male	Post NAFLD	Fat accumulation、 Insulin resistance
Liu 2020 ^[50]	China/Asia	C57BL/6J、 db/db mice/male	NAFLD induction	Fat accumulation、 Insulin resistance
Long 2019 ^[72]	China/Asia			Fat accumulation
Ng 2014 ^[97]	Singapore/Asia	C57BL/6mice/male	Post NAFLD	Fat accumulation
Nie 2017 ^[98]	China/Asia	C57BL/6J mice/male	Post NAFLD	Fat accumulation、 Inflammation
Riaz 2021 ^[51]	China/Asia	C57BL/6J、 E3 rasts mice/male	NAFLD induction	Inflammation、 Fibrosis
Rodrigues 2017 ^[64]	Portugal/Europe	C57BL/6、 miR-21 KO mice/male、 female	NASH induction	Fat accumulation 、 Inflammation 、 Fibrosis 、 Other (Apoptosis)
Simino 2021 ^[33]	Brazil/South America			Fat accumulation

Sun 2022 ^[99]	Israel/Asia	C57BL/6 mice/male	Post NASH	Fat accumulation、Inflammation、Other (Apoptosis)
Sun 2019 ^[46]	China/Asia			Fat accumulation
Wang G 2020 ^[100]	China/Asia			Fat accumulation、Inflammation
Wang L 2020 ^[29]	China/Asia	C57BL/6 mice/male	NAFLD induction	Fat accumulation
Wang L 2016 ^[81]	China/Asia	C57BL/6J mice/Unclear	Post NAFLD	Fat accumulation
Wang X 2019 ^[65]	China/Asia	C57BL/6J mice/male	Post NAFLD	Fat accumulation、Inflammation
Wang Y 2017 ^[105]	China/Asia	C57BL/6 mice/male	NAFLD induction	Fat accumulation
Wu 2016 ^[66]	America/North America	C57BL/6 mice/male	Post NAFLD	Fat accumulation
Xu 2018 ^[107]	China/Asia	C57BL/6 mice/male	Post NAFLD	Fat accumulation、Insulin resistance
Xu 2021 ^[31]	America/North America	C57BL/6J mice/male	NAFLD induction	Fat accumulation 、Inflammation 、Fibrosis 、Other (Apoptosis)
Yu 2022 ^[110]	China/Asia	C57BL/6 mice/male	Post NAFLD	Inflammation、Oxidative stress
Zhang B 2019 ^[32]	China/Asia	C57BL/6、ob/ob、db/db mice/male	Post NAFLD	Fat accumulation、Insulin resistance
Zhang Q 2021 ^[45]	China/Asia	C57BL/6、miR-125b KO mice/male	Post NAFLD	Inflammation

Zhang T 2018 ^[112]	America/North America	C57BL/6 mice/male	Post NAFLD	Fat accumulation
Zhuge 2017 ^[49]	China/Asia	C57BL/6J、miR-150 KO mice/male	NAFLD induction	Fat accumulation、Insulin resistance
Zuo 2021 ^[114]	China/Asia	C57BL/6N mice/male	Post NAFLD	Other (Endothelial Barrier Integrity)
Ao 2016 ^[35]	China/Asia			Fat accumulation
Chen X 2021 ^[83]	China/Asia			Fat accumulation
Li B 2014 ^[55]	China/Asia			Fat accumulation、Oxidative stress
Wang J 2019 ^[101]	China/Asia			Fat accumulation
Xiao 2016 ^[78]	China/Asia			Other (Lipogenesis)
Yang 2021 ^[108]	China/Asia			Fat accumulation、Inflammation
Zhang Q 2020 ^[111]	China/Asia			Fat accumulation
Li Y 2022 ^[56]	China/Asia			Fat accumulation
Liu H 2021 ^[36]	China/Asia	C57BL/6J mice/male	Post NAFLD	Fat accumulation、Inflammation
Wang Y 2020 ^[57]	China/Asia	C57BL/6 mice/Unclear	Post NAFLD	Fat accumulation、Fibrosis、Other (Intestinal mucosal barrier dysfunction)

Xiao J 2016 ^[59]	China/Asia			Other (Lipogenesis)
Kong 2022 ^[89]	China/Asia			Fat accumulation、Inflammation、Other (Necrosis)
Wang L 2022 ^[102]	China/Asia			Fat accumulation、Inflammation
miRNA-replacement therapy				
Chai 2020 ^[70]	Israel/Asia	C57BL/6 mice/male	Post NAFLD	Oxidative stress、Other (Lipogenesis)
Chen 2019 ^[73]	China/Asia			Fat accumulation
Chen Z 2020 ^[77]	China/Asia	C57BL/6 mice/male	Post NAFLD	Inflammation、Other (Apoptosis)
Cheng 2017 ^[54]	China/Asia	C57BL/6J mice/male	Post NAFLD	Fat accumulation、Other (Lipogenesis)
Dong 2022 ^[85]	China/Asia	C57BL/6J、db/db mice/male	Post NAFLD	Other (Lipotoxicity)
Fan 2017 ^[44]	China/Asia	C57BL/6Ks、db/db mice/male	Post NAFLD	Fat accumulation
Fan 2021 ^[86]	China/Asia	HFHFr、db/db mice/Unclear	Post NAFLD	Other (Glucolipid metabolism)
He 2017 ^[38]	China/Asia	C57BL/6 mice/male	Post NAFLD	Fat accumulation、Inflammation
He 2018 ^[74]	China/Asia	C57BL/6 mice/female	Post NASH	Fat accumulation、Inflammation
He 2019 ^[60]	America/North America			Inflammation、Fibrosis、Oxidative stress

Hu 2019 ^[88]	China/Asia	C57BL/6 mice/male		Fat accumulation
Hur 2015 ^[62]	China/Asia			Inflammation
Guo 2017 ^[58]	China/Asia	C57BL/6J mice/male	Post NAFLD	Fat accumulation
Li D 2015 ^[92]	China/Asia			Inflammation
Li H 2021 ^[93]	China/Asia	C57BL/6、miR-23b KO、db/db mice/male	Post NAFLD	Fat accumulation 、 Inflammation 、 Fibrosis 、 Other (Apoptosis)
Li K 2020 ^[75]	China/Asia	C57BL/6 mice/male	Post NAFLD	Other (Glucolipid metabolism)
Li P 2020 ^[94]	China/Asia			Oxidative stress、Fibrosis、Other (Glucolipid metabolism)
Lin 2019 ^[42]	China/Asia	C57BL/6J、miR-29a TG mice/male	NAFLD induction	Fat accumulation、Fibrosis
Lin 2017 ^[52]	China/Asia			Fat accumulation、Other (Glucolipid metabolism)
Liu 2019 ^[23]	China/Asia			Fat accumulation、Other (Lipogenesis)
Mittal 2020 ^[96]	India/Asia			Fat accumulation
Murata 2019 ^[40]	Japan/Asia			Fat accumulation
Niu 2022 ^[61]	China/Asia	C57BL/6J mice/female	NAFLD induction	Fat accumulation、Fibrosis

Tang 2019 ^[63]	China/Asia			Other (Autophagy)
Wang X 2020 ^[37]	China/Asia			Fat accumulation
Wang X 2022 ^[104]	China/Asia	C57BL/6 mice/male	NAFLD induction	Fat accumulation
Wang Z 2020 ^[53]	China/Asia	C57BL/6、ob/ob、db/db mice/male	NAFLD induction	Fat accumulation、Insulin resistance
Wolfson 2018 ^[47]	America/North America			Inflammation
Wu 2017 ^[106]	America/North America	C57BL/6 mice/male	Post NAFLD	Fat accumulation、Insulin resistance
Xu 2021 ^[39]	China/Asia	C57BL/6、miR-26a TG mice/male	NAFLD induction	Fat accumulation、Oxidative stress
Xu 2015 ^[31]	America/North America	C57BL/6、ob/ob、db/db mice/male	Post NAFLD	Fat accumulation
Yang 2020 ^[119]	China/Asia	C57BL/6、miR-29a TG mice/male	NASH induction	Oxidative stress
Yu 2021 ^[109]	China/Asia	C57BL/6 mice/male	Post NAFLD	Inflammation、Oxidative stress
Zhang M 2017 ^[120]	China/Asia	C57BL/6J mice/male、ob/ob mice/male	Post NAFLD	Fat accumulation、Other (Lipogenesis)
Zhang M 2020 ^[69]	China/Asia	C57BL/6J mice/male、db/db mice	Post NAFLD	Fat accumulation
Zhang Z 2015 ^[121]	China/Asia	C57BL/6J mice/female	NAFLD induction	Fat accumulation、Other (Lipogenesis)

Wang Y 2017 ^[22]	China/Asia	Fibrosis、 Other （Apoptosis）
Zhao 2022 ^[34]	China/Asia	Other （Oxidative phosphorylation）
Guo 2022 ^[25]	China/Asia	Fat accumulation
Li R 2022 ^[95]	China/Asia	Fat accumulation
Zhang N 2021 ^[48]	China/Asia	Fat accumulation、 Inflammation、 Insulin resistance
Zhang Y 2020 ^[113]	China/Asia	Fat accumulation、 Oxidative stress、 Other （Apoptosis）
Wang X 2018 ^[103]	China/Asia	Fat accumulation、 Other （Lipogenesis）

KO: Knockout; TG:Transgenic

NAFLD: Non-Alcoholic Fatty Liver Disease; NASH: Non-alcoholic steatohepatitis; HFD: High-fat diet; MCD: Methionine-choline deficient; HF-HC-HS: High fat-high cholesterol-high sugar-diet;