

Supporting Information

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Toward a Deeper Understanding of Gut Microbiome in Depression: The Promise of Clinical Applicability

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Supplementary Tables

**Towards a deeper understanding of gut microbiome in depression:
the promise of clinical applicability**

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Figure S1. PRISMA flowchart.

Figure S2. Microbial α -diversity in patients with depression.

Figure S3. Microbial α -diversity in animal models of depression.

Figure S4. PRISMA flowchart for microbiota-based interventions of depression.

Figure S1. PRISMA flowchart.

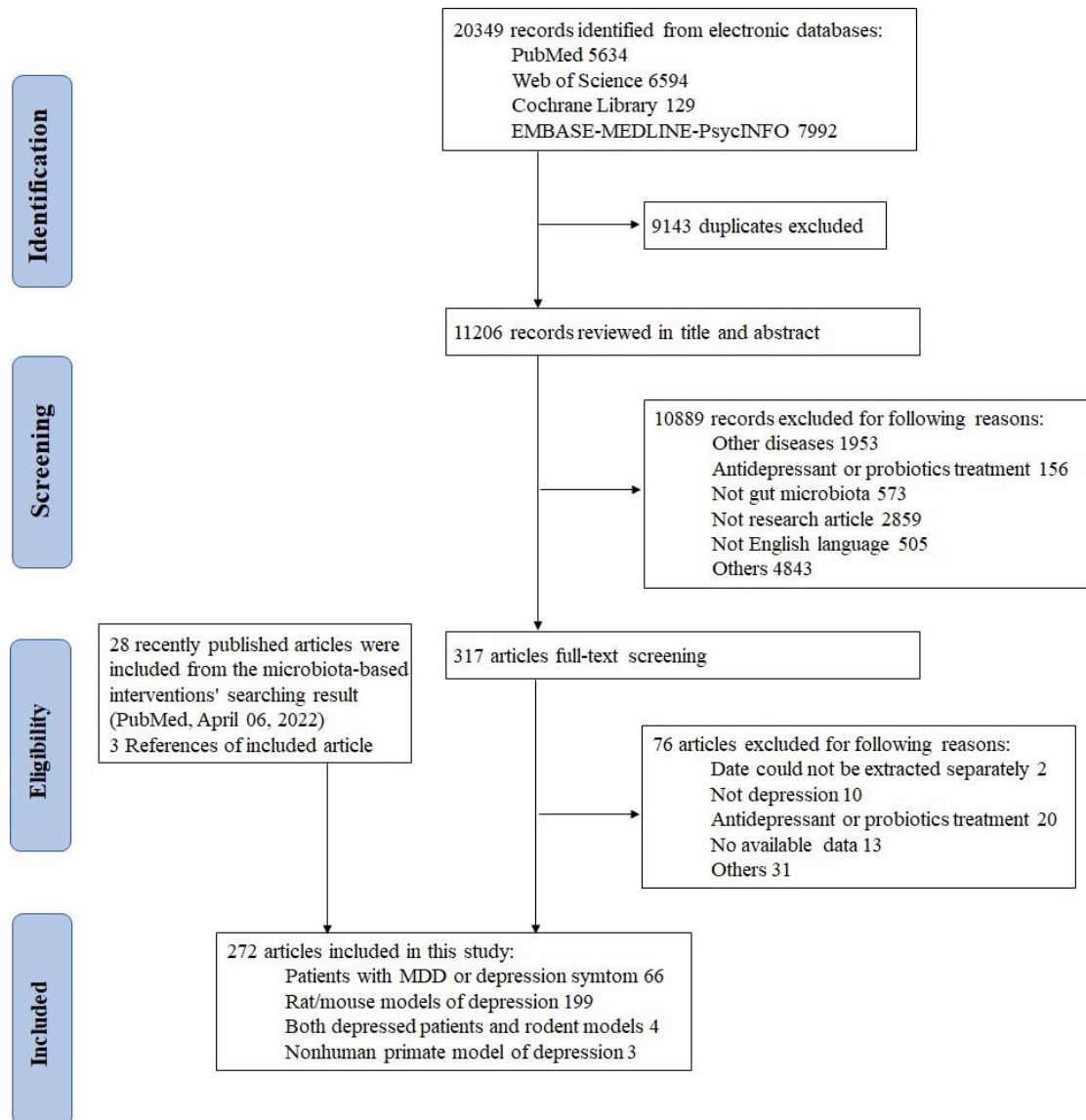


Figure S2. Microbial α -diversity in patients with depression.

Study	Diversity indices			Richness indices		Other indices		Depression types
	Shannon	Simpson	Inverse Simpson	Chao-1	ACE	Observed Species	Faith-PD	
Bai S et al. 2021								MDD
Bai S et al. 2022								MDD
Caso JR et al. 2021								MDD
Chahwan B et al. 2019								Clinical/Subclinical depression
Chen DL et al. 2021								UC with depression
Chen JJ et al. 2018								MDD
Chen JJ et al. 2020								MDD
Chen YH et al. 2021								MDD and Controls
Chung YE et al. 2019								MDD
Ciocan D et al. 2021								MDD
Dong Z et al. 2021								MDD
Hoggard M et al. 2018								Depression
Huang Y et al. 2018								MDD
Huang Y et al. 2021								Stroke+ affective disorder
Ishii W et al. 2019								Orthostatic intolerance with depression
Jackson MA et al. 2018								Depression
Jiang H et al. 2015								MDD
Jiang HY et al. 2020								Depression
Kelly JR et al. 2016								MDD
Kleiman SC et al. 2015								Depression
Kurokawa S et al. 2018								IBS with depression
Lai WT et al. 2021								MDD
Ling Y et al. 2020								Post-stroke depression
Liśkiewicz P et al. 2021								Depression
Liu P et al. 2021								MDD
Liu RT et al. 2020								MDD
Liu Y et al. 2016								Depression
Madan A et al. 2020								Depression
Medina-Rodriguez EM et al. 2020								MDD
Minichino A et al. 2021								Depression
Naseribafrouei A et al. 2014								Depression
Qin Q et al. 2021								Depression with test anxiety
Ramirez-Carrillo E et al. 2020								Depression
Rhee SJ et al. 2020								MDD
Rhee SJ et al. 2021								Depression
Rong H et al. 2019								MDD
Shen Y et al. 2021								MDD
Simpson CA et al. 2020								Depression
Stevens BR et al. 2020								MDD
Wingfield B et al. 2021								MDD
Yang J et al. 2020								MDD
Yang Y et al. 2021								Depression
Ye X et al. 2021								MDD
Zhang Q et al. 2021								MDD
Zheng P et al. 2016								MDD
Zheng P et al. 2020								MDD
Zheng S et al. 2021								Depression
Zhou Y et al. 2020								Postpartum depressive disorder
Zhu J et al. 2021								Depression with anxiety

	No difference
	Decreased α -diversity
	Increased α -diversity
	Not measured

Figure S3. Microbial α -diversity in animal models of depression.

Study	Diversity indexes			Richness indexes		Other indexes		Depression types
	Shannon	Simpson	Inverse Simpson	Chao-1	ACE	Observed Species	Faith-PD	
Abildgaard A et al. 2021								FSL-depression
An Q et al. 2020								CUMS-depression
Arsianova A et al. 2021								Antibiotic-depression
Bharwani A et al. 2017								CSDS-depression
Bridgewater LC et al. 2017								HFD-depression male
								CUMS-depression female
								CUMS-depression male
Burokas A et al. 2017								Prebiotics-anti-depression
Chakraborti A et al. 2021								CSDS-depression
Chen L et al. 2021								HFCS-MFD-depression
Chen P et al. 2019								LPS-depression
Chen T et al. 2021								UCMS-depression
Chen X et al. 2022								CRS-depression
Chen X et al. 2021								FMT CRS-depression
Chen Y et al. 2021a								Lead exposure-depression
Chen Y et al. 2021b								Lead exposure-depression
Cheng D et al. 2018								CUMS-depression
Cheng R et al. 2021								CUMS-depression
Chevalier G et al. 2020								Hydrocortisone-depression
Chi L et al. 2020								CUMS-depression
Deng Y et al. 2021								UCMS-depression
Diviccaro S et al. 2019								FMT-UCMS-depression
Donoso F et al. 2020								CUMS-depression
Du HX et al. 2020								CRS-depression
Duan J et al. 2021								Finasteride-depression
Egerton S et al. 2020								MS-depression
El Aidy S et al. 2017								MS
Fan L et al. 2021								CUMS-depression
Feng Y et al. 2020								CUMS-depression
Feng Z et al. 2020								CMS-depression
Forouzan S et al. 2021								METH-depression
Gao K et al. 2022								CUMS-depression
Gao X et al. 2020								CUMS-depression
Gong X et al. 2021								CSDS-depression
Gu F et al. 2020								CUMS-depression
Gu X et al. 2022								PSD-depression
Guida F et al. 2018								Antibiotic-depression
Guo Y et al. 2018								CRS-depression
Guo Y et al. 2019								CRS-depression
Han SK et al. 2020a								IS/EC-depression
Han SK et al. 2020b								EC-depression
Han SK et al. 2021								RS-depression
Hao WZ et al. 2021								FMT-RS-depression
Hassan AM et al. 2019								CUMS-depression
Huang F et al. 2021								HFD-depression
Huang N et al. 2019								Ovariectomy-depression
Huang YJ et al. 2021								LPS-depression
Huang YY et al. 2022								sCSDS-depression
Insera A et al. 2019								DSS-depression
Ji S et al. 2022								(Casp1, Ingr, Nos2) KO anti-depression
Jiang W et al. 2021								CUS-depression
Jiang Y et al. 2020								CRS-depression
Jianguo L et al. 2019								Post-stroke depression
Karen C et al. 2021								Alcohol-depression
Kelly JR et al. 2016								CUMS-depression
Kemp KM et al. 2021								MS-depression
Kim JK et al. 2020								ABX FMT-depression
Kim JK et al. 2021								MS
Knudsen JK et al. 2021								EC-depression
Leclercq S et al. 2020								IS-depression
Lee HC et al. 2020								EC-depression
Li H et al. 2019								FRL FMT-MDD-depression
Li H et al. 2021								FMT-AD-depression
Li N et al. 2018								Lard diet-depression
Li N et al. 2019								CUMS-depression
Li P et al. 2021								CUMS-depression
Lim EY et al. 2021								CMS-depression
Lin S et al. 2021								CUMS-depression
Liu QF et al. 2020								CUMS-recipient -depression
Liu X et al. 2021a								CUMS-depression
Liu X et al. 2021b								CUMS-depression
Luo X et al. 2021								EMF-depression
Lv M et al. 2021								CUMS-depression
Lv WJ et al. 2019								CUMS-depression
Lv WJ et al. 2020								DSS-depression
Ma W et al. 2019								PSD-depression
Matsuda Y et al. 2020								CSDS-depression
McGaughey KD et al. 2019								CSDS-depression

Grey	No difference
Green	Decreased α -diversity
Red	Increased α -diversity
White	Not measured

(Continue)

Study	Diversity indexes			Richness indexes		Other indexes		Depression types
	Shannon	Simpson	Inverse Simpson	Chao-1	ACE	Observed Species	Faith-PD	
Medina-Rodriguez EM et al. 2020								LH-depression
Meng C et al. 2022								CUMS-depression
Moya-Pérez A et al. 2017								MS-depression
O'Mahony SM et al. 2020								MS-depression
Patterson E et al. 2019								HFD-depression
Pearson-Leary J et al. 2020								CSDS-depression
Pu Y et al. 2021								Chrna7 KO-depression
Qiao Y et al. 2020								FMT-Chrma7 KO-depression
Qu W et al. 2019								CRS/CUMS-depression
Rao J et al. 2021								CUMS-depression
Ray P et al. 2021								CUMS-depression
Robertson RC et al. 2017								Vancomycin-depression
Schmidtnr AK et al. 2019								n-3 PUFA deficiency-depression
Shan B et al. 2021								HAB-depression
Shao S et al. 2021								CUS-depression
Sheng L et al. 2021								CRS-depression
Siopi E et al. 2020								CUMS-depression
Song J et al. 2019b								UCMS-depression
Song XJ et al. 2021								FMT-UCMS-depression
Sovijit WN et al. 2019								ACTH-depression
Sun L et al. 2019a								CUMS-depression
Sun X et al. 2021								CUMS-depression
Sun Y et al. 2019								CRS-depression
Sun Y et al. 2020								CUMS-depression
Szyszkowicz JK et al. 2017								LPS-depression
Takahashi E et al. 2021a								CSDS-depression
Takahashi E et al. 2021b								CSDS-depression
Teng T et al. 2021								AIN-93G-depression
Tian P et al. 2019a								CRS-depression
Tian P et al. 2020								CUMS-depression
Tian P et al. 2019b								CUMS-depression
Tian XY et al. 2021								CRS-depression
Tillmann S et al. 2019								IS-postpartum depression
Wang L et al. 2020								FSL-depression
Wang L et al. 2021								CUMS-depression
Wang Q et al. 2019								CUMS-depression female
Wang R et al. 2021								CUMS-depression male
Wang S et al. 2020a								CMS-depression
Wang S et al. 2020b								CRS-depression
Wang SM et al. 2021								FMT CSDS-depression
Wang Y et al. 2021								Microbe-depression
Warda AK et al. 2019								CSDS-depression
Wei LN et al. 2019								FMT CSDS-depression WT mice
Wu F et al. 2020								FMT CSDS-depression Ephx2 KO mice
Wu J et al. 2021								LPS-depression
Wu M et al. 2020								ADR-159-depression
Xa J et al. 2021								CUMS-depression
Xiao Q et al. 2020								HFD-depression
Xie R et al. 2020a								CUMS-depression
Xie R et al. 2020b								CRS-depression
Xu J et al. 2022								LPS-depression
Xu M et al. 2022								CRS-depression
Xu Z et al. 2019								LPS-depression
Xue M et al. 2021								CRS-depression
Yan T et al. 2020								CSDS-depression
Yan T et al. 2021								CUMS-depression
Yang C et al. 2019								LPS-depression
Yang HL et al. 2021								SNI-depression
Yang Q et al. 2020								FMT SNI susceptible-depression
Yu M et al. 2020								CRS-depression
Yun SW et al. 2020								CUMS-depression
Yun SW et al. 2021								CVS-depression
Zhang F et al. 2020								EC-depression
Zhang J et al. 2020								EC-depression
Zhang K et al. 2019								5-Fu-depression
Zhang L et al. 2021								LPS-depression
Zhang W et al. 2021								LPS-depression
Zhang Y et al. 2021								LH-depression
Zhang Z et al. 2021								CUMS-depression
Zhang Z et al. 2022								CUMS-depression
Zhang Z et al. 2020								CUMS-depression
Zhao B et al. 2020								Offspring of prenatal IS-depression
Zhao F et al. 2021								CRS-depression
Zhao W et al. 2019								CRS-depression
Zhao Z et al. 2020								DSS-depression
Zheng P et al. 2020								CUMS-depression
Zhou H et al. 2022								CUMS-depression
Zhu HZ et al. 2019								Offspring of prenatal CUMS-depression

	No difference
	Decreased α -diversity
	Increased α -diversity
	Not measured

Figure S4. PRISMA flowchart for microbiota-based interventions of depression.

