

Supporting Information

Table S1. Seven ingredients of Xiaochaihu Decoction (XCHD).

Chinese name	Latin name	Dose(g)	Ratio(%)
Chai Hu	Bupleurum chinense DC.	12	20
Huang Qin	Scutellaria baicalensis Georgi	9	15
Ren Shen	Panax ginseng C.A. Mey.	9	15
Ban Xia	Pinellia ternate (Thunb.) Breit.	9	15
Gan cao	Glycyrrhiza uralensis Fisch.	6	10
Shen Jiang	Zingiber officinale Rosc.	6	10
Da Zao	Ziziphus jujube Mill.	9	15

Table S2. Target gene sequence list.

Gene	Forward	Reverse
MMP9	CTGGACAGCCAGACACTAAAG	CTCGCGGCAAGTCTTCAGAG
IL-1β	AAATGCCACCTTTTGACAGTGA	TTGGAAGCAGCCCTTCATCTT
TNF	GATCGGTCCCCAAAGGGATG	CCACTTGGTGGTTTGTGAGTG
IL-6	ACAAAGCCAGAGTCCTTCAGAG	TCTGTGACTCCAGCTTATCTCTT
iNOS	CTATGGCCGCTTTGATGTGC	G TTGGGATGCTCCATGGTCAC

Table S3. Molecular docking results between component and related genes.

Targets	Component	Affinity	Targets	Component	Affinity
MMP9	Quercetin	-7.248	TNF	Quercetin	-6.727
MMP9	Kaempferol	-7.535	TNF	Kaempferol	-5.83
MMP9	Naringenin	-6.95	TNF	Naringenin	-5.625
IL-1β	Quercetin	-7.245	IL-6	Quercetin	-6.912

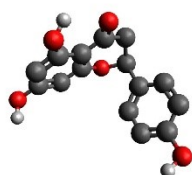
IL-1 β	Kaempferol	-6.153	IL-6	Kaempferol	-6.757
IL-1 β	Naringenin	-6.678	IL-6	Naringenin	-5.59

Table S4. Characterization of chemical components in XCHD by LC-MS/MS

Metabolite name	Formula	Adduct type	Theoretical mass (m/z)	Experimental mass (m/z)	ppm	Rt(min)	Class	Source
Gallic acid	C7H6O5	[M-H]-	169.01389	169.01282	-6.33	3.803	Benzene and substituted derivatives	Ziziphus jujuba Mill.
Baicalin	C21H18O11	[M-H]-	445.07763	445.07681	-1.84	5.496	Flavonoids	Scutellaria baicalensis Georgi
Baicalein	C15H10O5	[M-H]-	269.045	269.0444	-2.23	6.097	Flavonoids	Scutellaria baicalensis Georgi
Ala-Asp-Pro	C12H19N3O6	[M+H]+	302.13437	302.13306	-4.34	2.25	Carboxylic acids and derivatives	Glycyrrhiza uralensis Fisch.
D-proline betaine	C7H13NO2	[M+H]+	144.10191	144.10127	-4.44	2.278	Carboxylic acids and derivatives	Ziziphus jujuba Mill.
D-Fructose	C6H12O6	[M+NH4]+	198.09743	198.09651	-4.64	3.473	Organooxygen compounds	Ziziphus jujuba Mill.
Adenosine	C10H13N5O4	[M+H]+	268.10487	268.10248	-8.91	3.751	Purine nucleosides	Panax ginseng C.A. Mey.
Guanosine	C10H13N5O5	[M+H]+	284.09976	284.0972	-9	3.74	Purine nucleosides	Panax ginseng C.A. Mey.
L-Tryptophan	C11H12N2O2	[M+H]+	205.09715	205.09631	-4.09	4.059	Indoles and derivatives	Ziziphus jujuba Mill.
Adenine	C5H5N5	[M]+	135.0545	135.05466	1.2	4.502	Imidazopyrimidines	Panax ginseng C.A. Mey.
Chrysin-7-O- glucuronide	C21H18O10	[M+H]+	431.09772	431.0954	-5.38	5.831	Flavonoids	Scutellaria baicalensis Georgi
Naringenin	C15H12O5	[M+H]+	273.07575	273.074	-6.41	5.63	Flavonoids	Glycyrrhiza uralensis Fisch.
Kaempferol	C15H10O6	[M+H]+	287.05515	287.0534	-6.1	5.74	Flavonoids	Scutellaria baicalensis Georgi
Quercetin	C15H10O7	[M+H]+	303.05007	303.0481	-6.5	6.03	Flavonoids	Scutellaria baicalensis Georgi
Scutellariae	C15H10O5	[M+H]+	271.06007	271.0585	-5.79	6.6	Flavonoids	Scutellaria baicalensis Georgi
Diosmetin	C16H12O6	[M+H]+	301.07066	301.06873	-6.41	6.55	Flavonoids	Glycyrrhiza uralensis Fisch.
Wogonin	C16H12O5	[M+H]+	285.07575	285.0741	-5.79	7.2	Flavonoids	Scutellaria

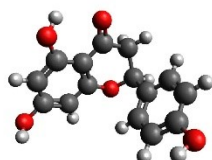
Gingerol	C ₁₇ H ₂₆ O ₄	[M-H ₂ O+H] ⁺	277.17983	277.17877	-3.82	7.137	Phenols	baicalensis Georgi Zingiber officinale Rosc
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A



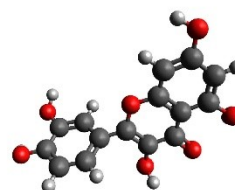
Kaempferol

B



Naringenin

C



Quercetin

Figure S1. Chemical structural formulas of kaempferol (A), naringin (B) and quercetin (C).

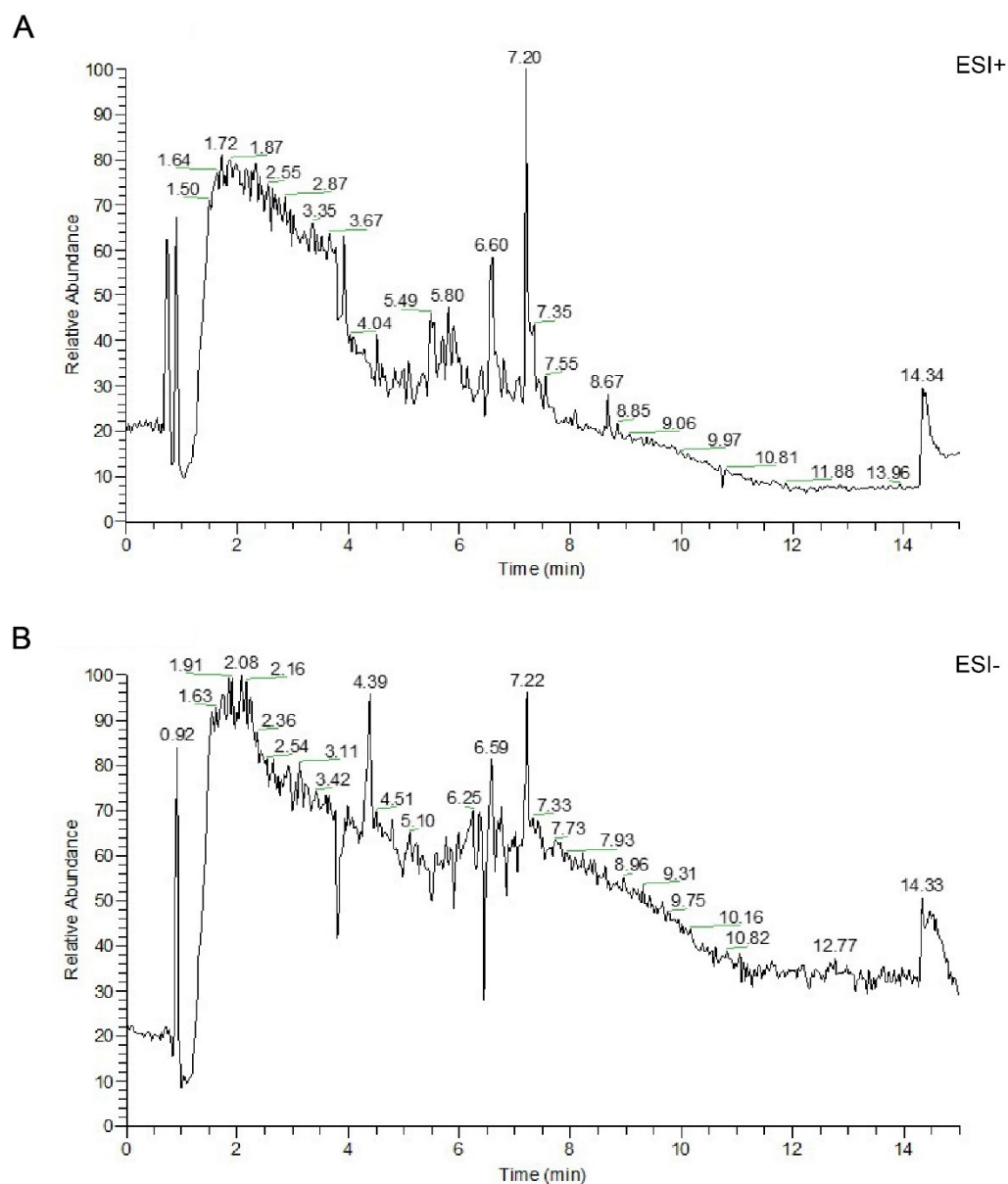


Figure S2. Component analysis of XCHD. LC-MS was used to analyse the chemical composition of XCHD and obtain the Base-peak chromatogram (A) Total Ion Chromatogram in Positive Ion Mode. (B) Total Ion Chromatogram in Negative Ion Mode.

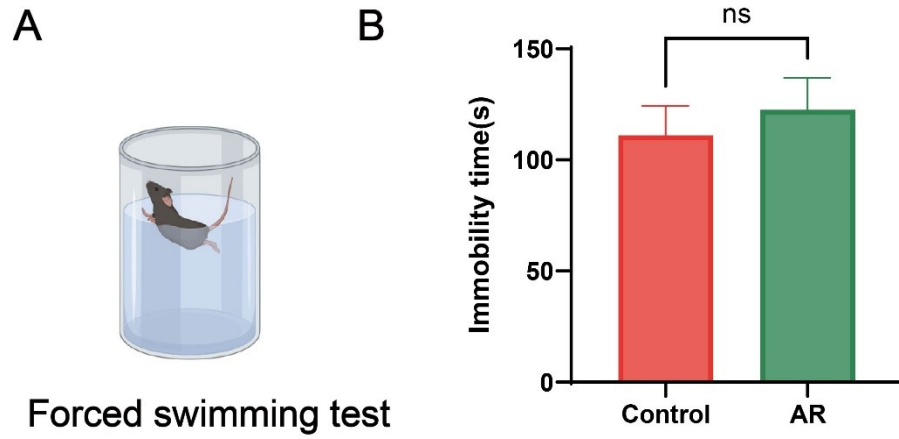


Figure S3. Effects of XCHD on the behavioral experiments of the forced swimming test in AR mice. (A) Schematic diagram of mouse FST. (B) Quantification of the immobility time in 4 min for each group of mice in FST, (n=6, per group). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$