

Table SVI. Summary of previously published studies on Bioinformatics analysis of OA.

PMID (GEO dataset ID)	Organism	Source type	Sample	Primary method
26973327	Homo sapiens	Knee articular cartilage	Control (n=8): Damaged distal medial condyle from OA patient; OA (n=8): Intact posterior lateral condyle from OA patient	Identification of DEGs and TFs based on PhenomeExpress
29904957 (GSE51588)	Homo sapiens	Knee subchondral bone	Control (n=5): Knee lateral and medial tibial plateaus; OA (n=20): Knee lateral and medial tibial plateaus	WGCNA
30186872 (GSE12021, GSE55235)	Homo sapiens	Synovial tissue	Control (n=19): Normal knee synovial membranes; OA (n=20): Osteoarthritis knee synovial membranes	Identification of DEGs
24563447 (GSE32317)	Homo sapiens	Synovial tissue	Control (n=10): Synovial membranes from early-stage OA patients; OA (n=9): Synovial membranes from end-stage OA patients	Identification of DEGs and WGCNA
27866912 (GSE46750)	Homo sapiens	Cultured cells from synovial membrane	Control (n=12): Cultured cells (normal/reactive) from same OA patient; OA (n=12): Cultured cells (inflammatory) from same OA patient	Identification of DEGs
30081074 (GSE114007)	Homo sapiens	Knee articular cartilage	Control (n=18): Weightbearing regions on medial and lateral femoral condyles in normal donors; OA (n=20): Weightbearing regions on medial and lateral femoral condyles in OA patients	Identification of DEGs and transcription factor enrichment analysis
21931681	Rattus norvegicus(Female Sprague Dawley rats)	Knee articular cartilage	Distal end of individual femur. Control: Sham control rats; OA-1, -2 and -3: Rats with monoiodoacetate-induced OA (grade 1, 2 and 3, respectively; n=15 per group).	Identification of salient genes differentially expressed in cluster analysis

30393192	Homo sapiens	Synovial tissue	Control (n=5): Synovial membranes from normal donors; OA (n=5): Synovial membranes from OA patients	Identification of DEGs and differentially expressed lncRNAs
26832188 (GSE1919, GSE12021, GSE32317, GSE46750, GSE55235, GSE55457)	Homo sapiens	Synovial tissue	Control (n=50): Synovial membranes from normal donors; OA (n=76): Synovial membranes from OA patients	Systematic analysis of OA gene expression data to identify DEGs
25468726	Homo sapiens	Synovial tissue	Control (n=19): Synovial membranes from normal donors; OA (n=19): Synovial membranes from OA patients	Systematic analysis of OA gene expression data to identify DEGs
25524778	Homo sapiens	Knee articular cartilage	Control (n=5): Control subjects with no history of OA or rheumatoid arthritis who underwent amputation resulting from osteosarcoma; OA (n=6): Obtained from knee OA patients undergoing total knee arthroplasty	Identification of DEGs and differentially expressed lncRNAs
26171692 (GSE46750, GSE43269)	Homo sapiens	Synovial tissue	Gene expression profile (GSE46750): Control (n=12): Synovial membranes from normal donors; OA (n=12): Synovial membranes from OA patients DNA methylation profile. (GSE43269): Control (n=18): Synovial membranes from normal donors; OA (n=23): Synovial membranes from OA patients	Identification of DEGs and differentially methylated genes
29344651 (GSE55457, GSE55584)	Homo sapiens	Synovial tissue	Control (n=2): Synovial membranes from normal female individuals; OA (n=5): Synovial membranes from OA female individuals	Identification of DEGs

30365099 (GSE46750)	Homo sapiens	Cultured cells from synovial membrane	Control (n=12): Cultured cells (normal/reactive) from same OA patient; OA (n=12): Cultured cells (inflammatory) from same OA patient	Identification of DEGs
30186409 (GSE48556, GSE82107)	Homo sapiens	Synovial tissue and peripheral blood mononuclear cells	GSE82107: Control (n=7): Synovial membranes from normal donors; OA (n=10): Synovial membranes from OA patients. GSE48556: Control (n=33): Peripheral blood mononuclear cells obtained from healthy controls; OA (n=106): Peripheral blood mononuclear cells obtained from OA patients	Identification of DEGs

The remaining studies retrieved focus on a different direction of research. PMID: 30246031 28371410 26978347 18975309 25118911 30466988 24788818 24316489 28849021 18036297 27082252 25296561 29110708 23069848 26924420 27893851 23864235 26079860 26117171 28649440 30548602 23436205 21041994 22484373 25631385 25807424 23971731 30260019 28450214 27128146 20858714 27254479 25456297 26315393 26746145 23240033 14719189 29126436 29892899 24374632 25807374 19011694 15480056 15106071. OA, osteoarthritis; TF, transcription factor; DEG, differentially expressed gene; WGCNA, weighted gene co-expression network analysis; PMID, PubMed ID; GEO, gene expression omnibus.