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RESEARCH ARTICLE

Exosome immobilization of 3D-printed PCL scaffolds for bone tissue engineering

Supplementary file

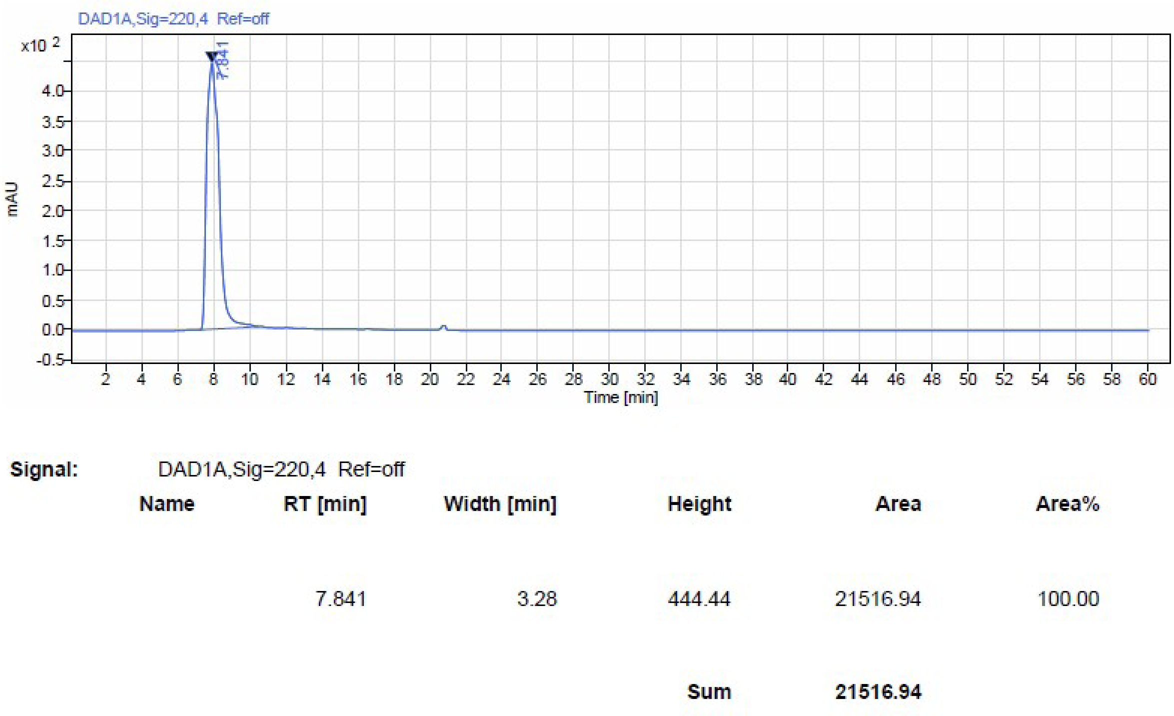

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Figure S1. HPLC-SEC for EV purity confirmation. Characterization of milk exosome by Size-Exclusion high performance liquid chromatography. Purity>100% (by SEC-HPLC). Arrows indicate the retention times of milk exosome. The provided SEC-HPLC chromatogram signifies a crucial step in the detailed characterization of the isolated exosome purity. The chromatogram itself demonstrates the successful purification of a single component. The single, sharp peak with an area percentage of 100% confirms that the isolated substance is of exceptionally high purity and free from detectable contaminants under the specified analytical conditions.

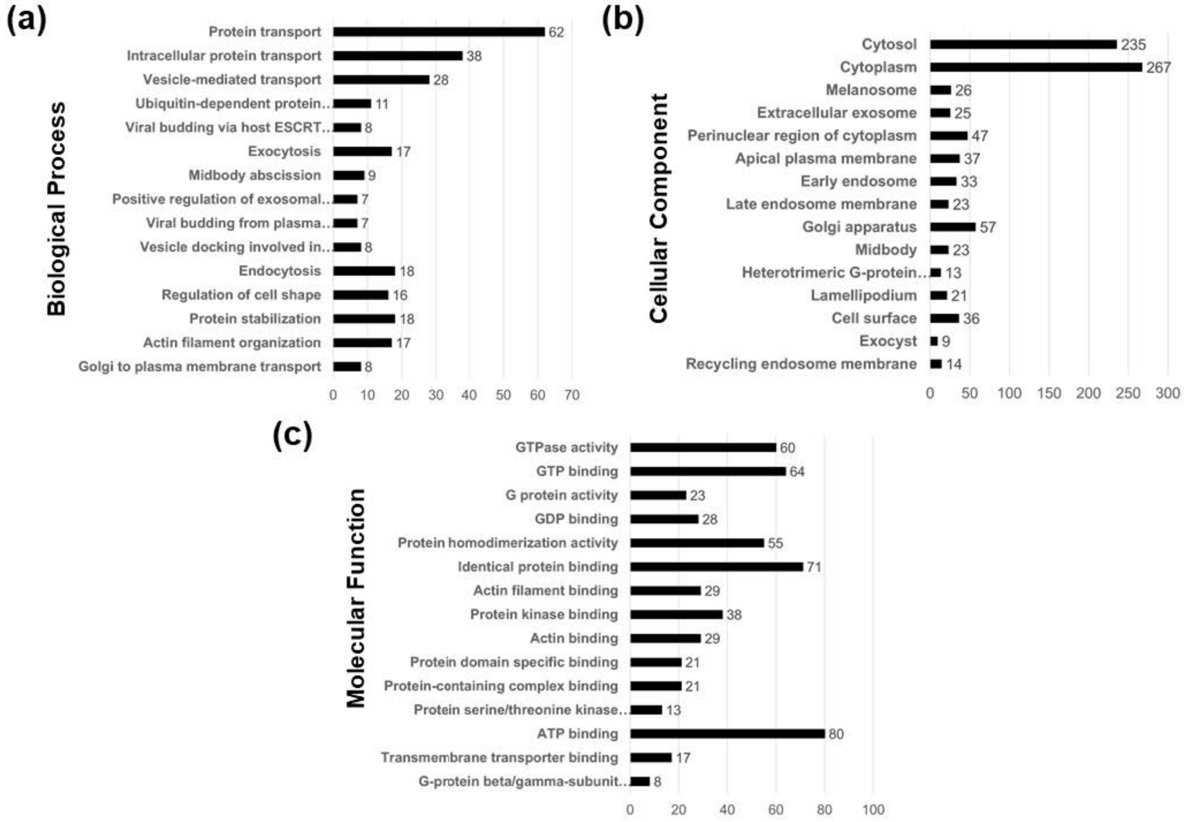
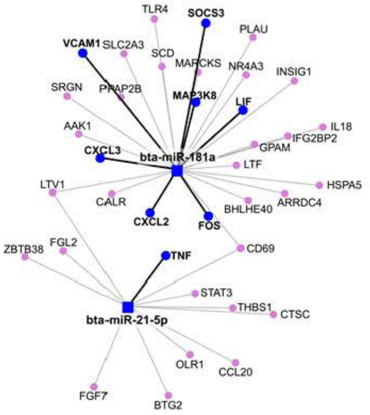


Figure S2. Proteomic analysis of milk exosome. The number on the x-axis indicates the enriched count of genes. (a) Bar plot of top 15 biological process terms. (b) Bar plot of top 15 cellular component terms. (c) Bar plot of top 15 molecular function terms.

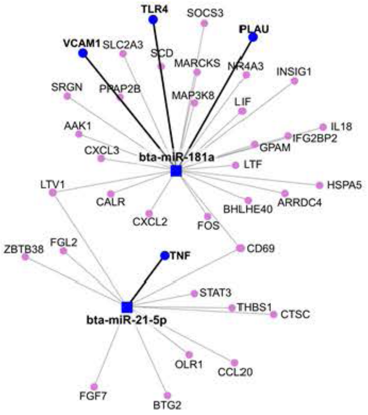
Table S1. KEGG analysis for miRNA

Name	Hits	adj.pval	Related genes
TNF signaling pathway	8	7.55E-08	VCAM1, SOCS3, FOS, CXCL3, CXCL2, MAP3K8, LIF, TNF
NF-kappa B signaling pathway	4	0.00241	PLAU, VCAM1, TLR4, TNF
Toll-like receptor signaling pathway	4	0.00306	FOS, TLR4, MAP3K8, TNF
Prolactin signaling pathway	3	0.00929	SOCS3, FOS, STAT3
MAPK signaling pathway	4	0.0313	FGF7, TNF, MAP3K8, FOS
Osteoclast differentiation	3	0.0322	SOCS3, FOS, TNF

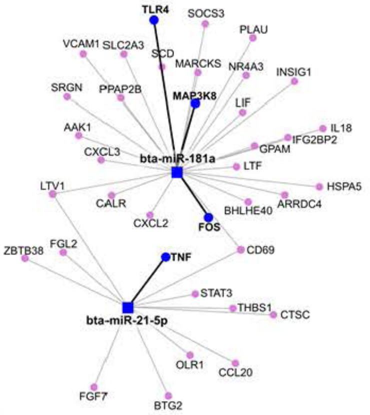
(a) TNF signaling pathway



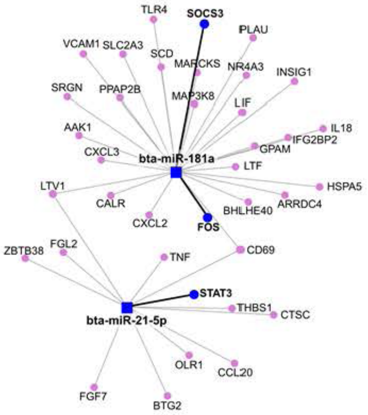
(b) NF-kappa B signaling pathway



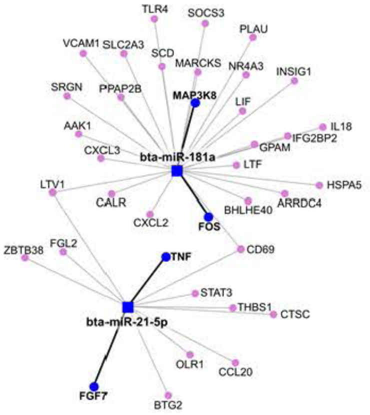
(c) Toll-like receptor signaling pathway



(d) Prolactin signaling pathway



(e) MAPK signaling pathway



(f) Osteoclast differentiation

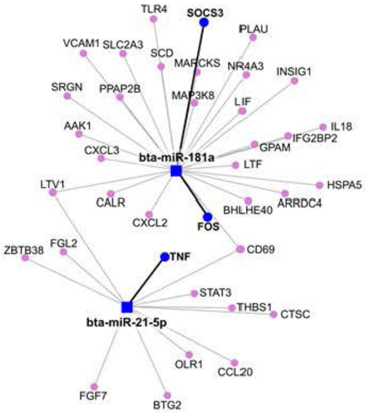


Figure S3. miRNA network of bone related KEGG pathway