Supplementary Material

Exosomes Derived from Mucoperiosteum Krt14^{+}Ctsk^{+} Cells Promote Bone Regeneration by Coupling Enhanced Osteogenesis and Angiogenesis

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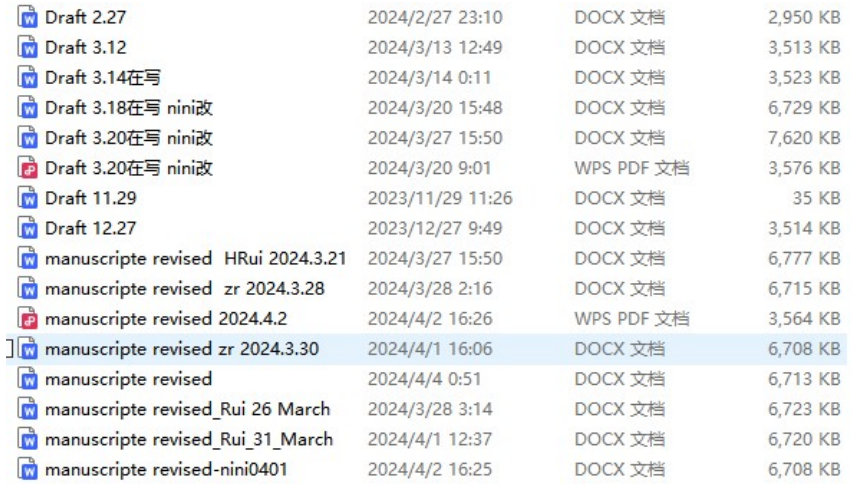
1 Author Contributions

Conceptualization, B.X., and N.N.; Methodology, H.R. and Z.D.; Software, Z.R., and H.R.; Validation, Z.R., X.Y., and G.L.; Formal Analysis, Z.R., and S.Y.; Investigation, Z.R. and X.Y.; Resources, S.W., S.J, and G.P.; Data Curation, Z.R., and C.X.; Writing – Original Draft, Z.R.; Writing – Review & Editing, N.N., H.R., and B.X.; Visualization, Z.R.; Supervision, B.X. and G.P.; Project Administration, B.X. and G.P.; Funding Acquisition, B.X.

We also provided some detailed evidence of the contributions of each author below.



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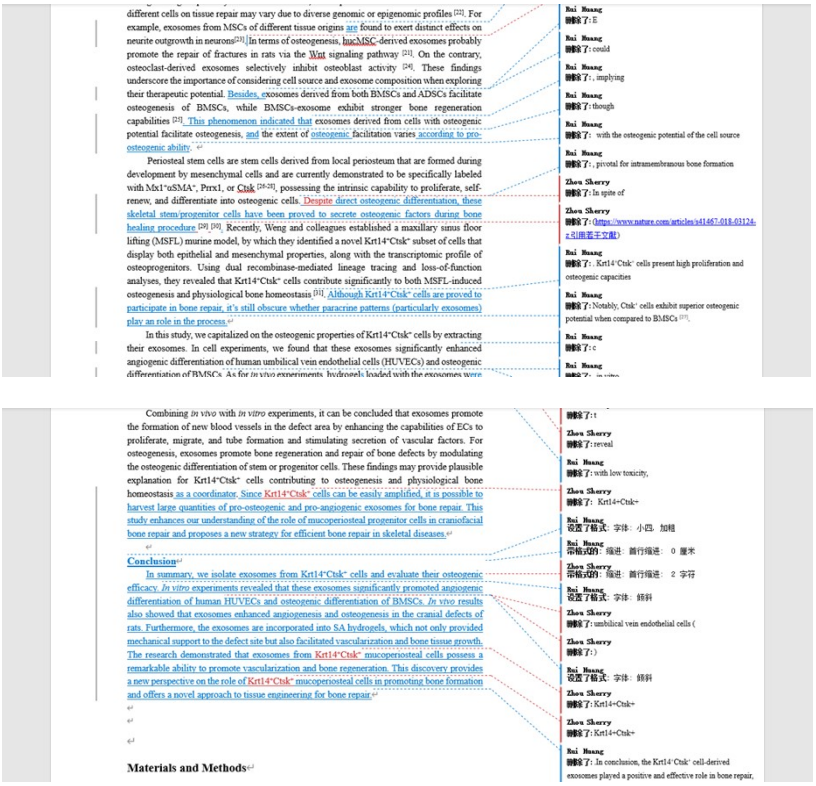
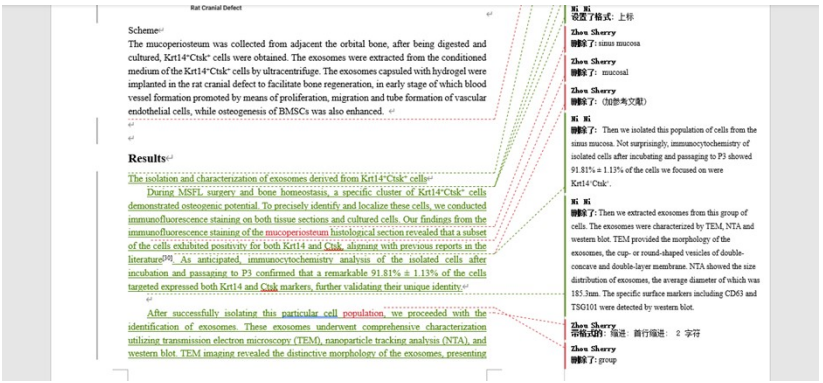
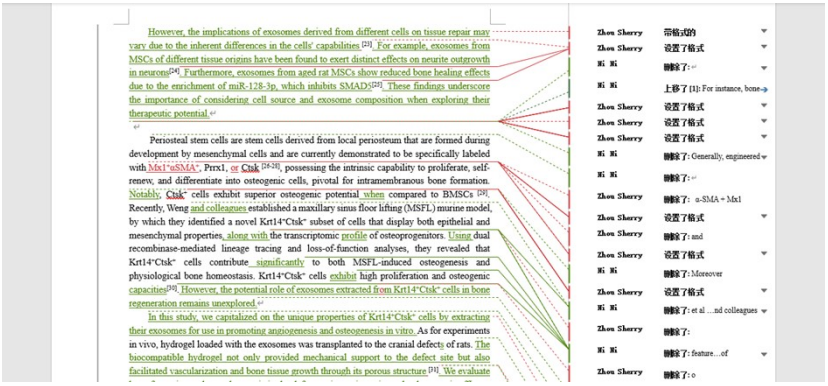
These are different versions of the manuscript written or revised by **Rong Zhou**, **Rui Huang**, and **Ni Ni**.

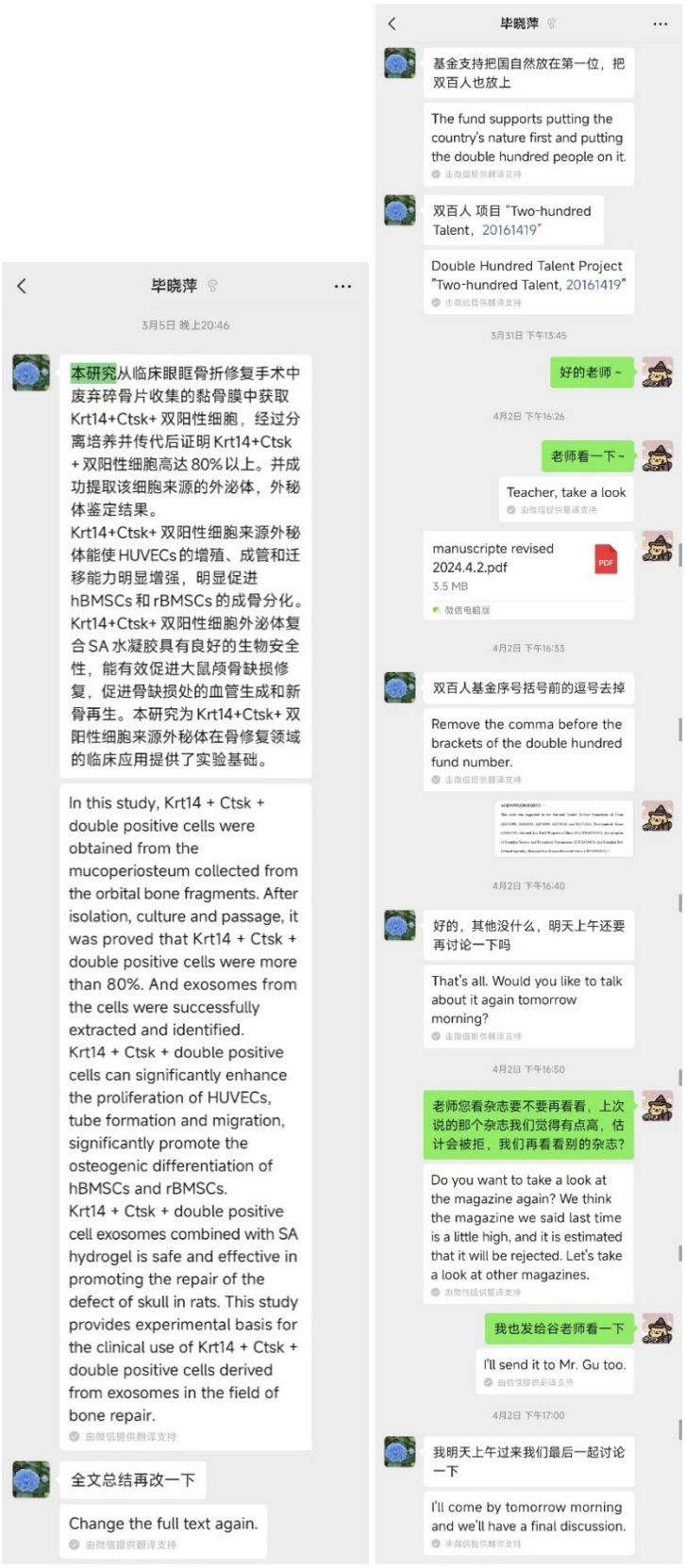


These are several paragraphs revised by **Rui Huang** and **Rong Zhou**.





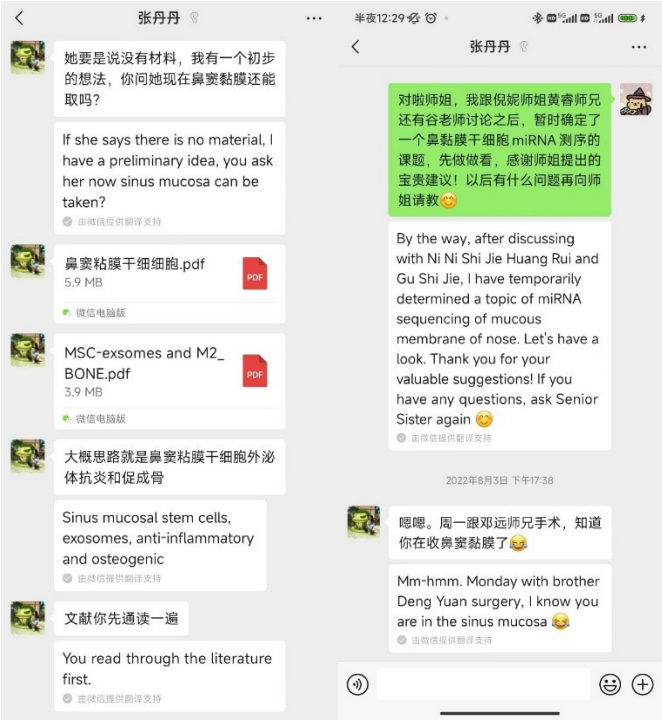
These are several paragraphs revised by **Ni Ni** and **Rong Zhou**.



These are the chat application messages of **Xiaoping Bi** and **Rong Zhou**, showing the revision of the manuscript and the foundation of the research.

These are chat application messages between **Yue Xu** and **Rong Zhou**, showing the discussion about checking the manuscript. **Yue Xu** also contributed to the animal experiments.

This is the chat group of **Ping Gu**'s group meeting, where **Ping Gu**, **Xiaoping Bi**, **Ni Ni**, **Yun Su**, **Yue Xu**, **Xirui Chen**, and **Rong Zhou** had discussions about the manuscript or figures of the research every Friday. **Ping Gu** is engaged in the research fields of bone repair, contributing to supervision and project administration. **Yun Su** also contributed to the formal analysis. **Xirui Chen** also contributed to the data curation.



These are chat application messages between **Dandan Zhang** and **Rong Zhou**, showing the discussion of the design of the research. **Dandan Zhang** also provided help about methodology.

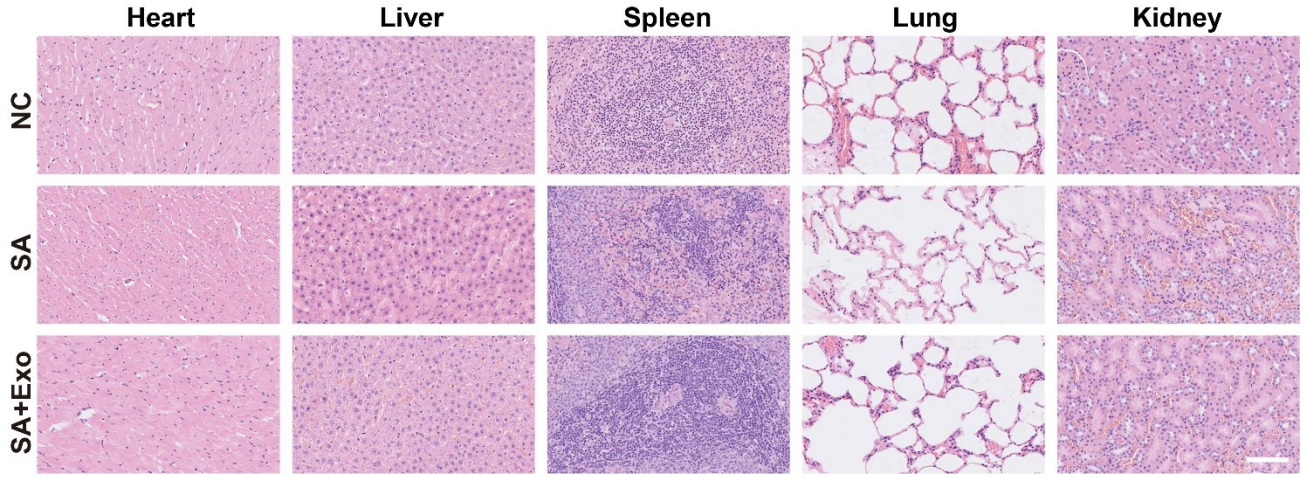
These are chat application messages between **Li Gu** and **Rong Zhou**, showing the discussion about animal experiments.

These are chat application messages between **Wodong Shi** and **Rong Zhou**, showing the discussion about the patient samples.

These are chat application messages between **Jing Sun** and **Rong Zhou**, showing the discussion about the patient samples.

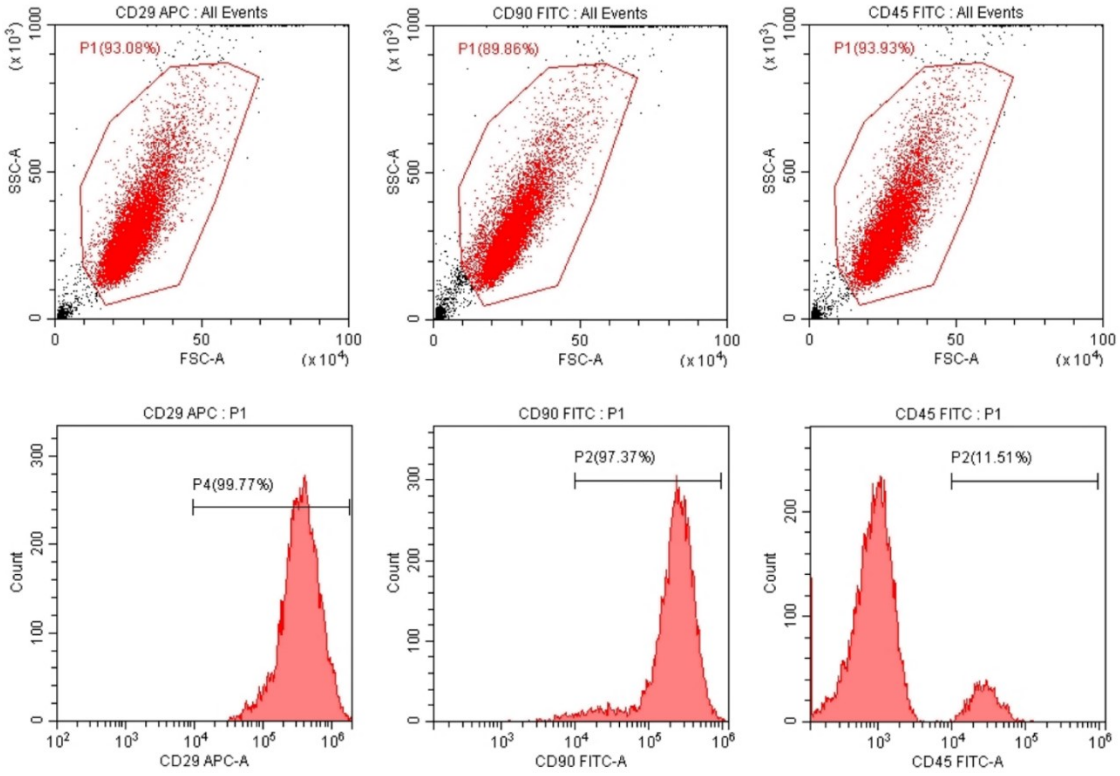
2 Supplementary Figures and Tables

2.1 Supplementary Figure 1



Supplementary Figure 1. H&E staining in the main organs. Scale bar = 100 μm.

2.2 Supplementary Figure 2



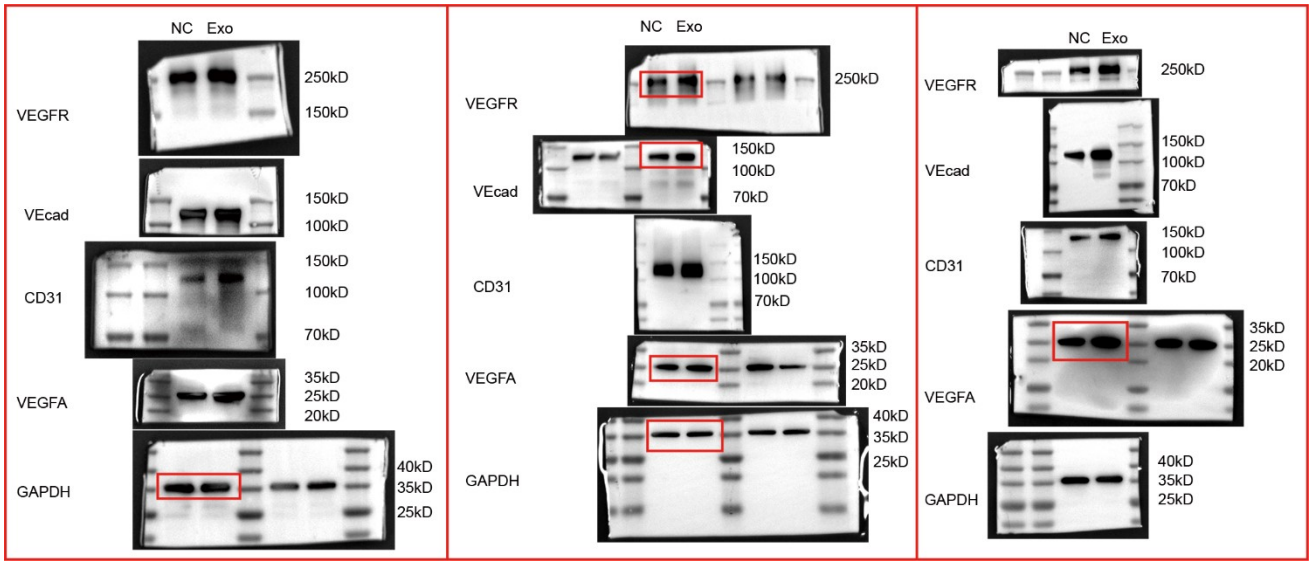
Supplementary Figure 2. The flow cytometry of rBMSCs including CD29, CD90, and CD45.

2.3 Supplementary Table 1

Supplementary Table 1. Primer sequences used in PCR assays.

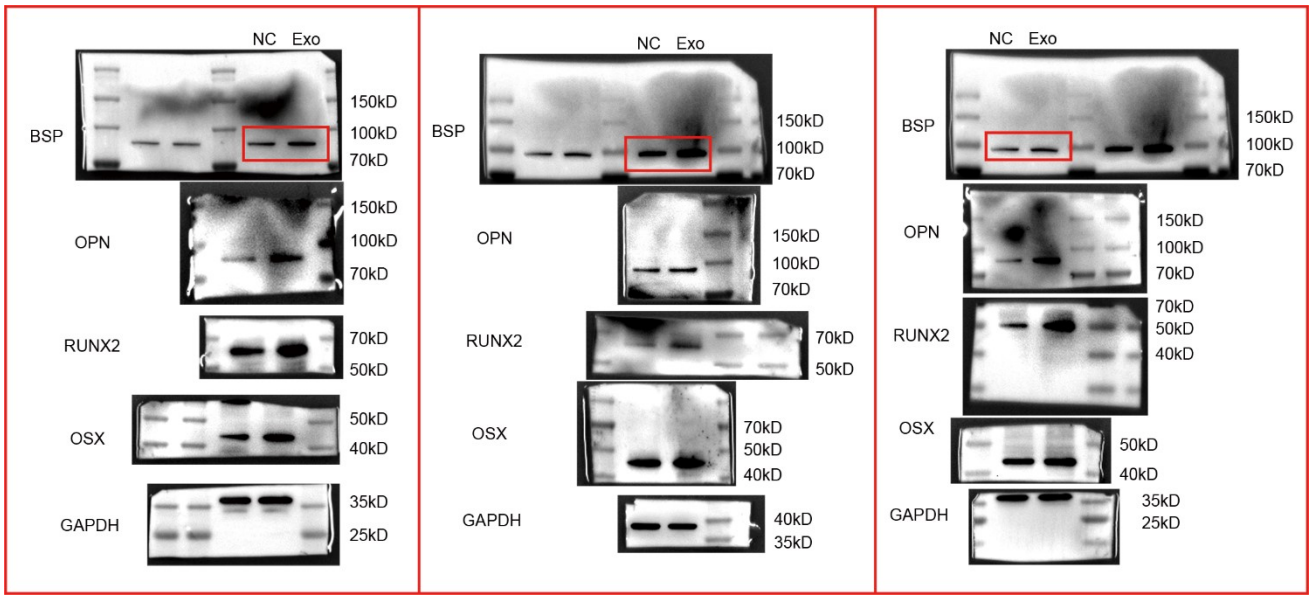
Gene name	F Primer Sequence	R Primer Sequence
GAPDH	GGAGCGAGATCCCTCCAAAAT	GGCTGTTGTCATACTTCTCATGG
BSP	CGATTTCCAGTTCAGGGCAGTA	CGATTTCCAGTTCAGGGCAGTA
OPN	GCAGCTTTACAACAAATACCCAG	CTTACTTGGAAGGGTCTGTGGG
OSX	CCTGAGTGGAACAGGAGTGGA	CCTGAGTGGAACAGGAGTGGA
RUNX2	GCGGTGCAAACTTTCTCCAG	TGCTTGCAGCCTTAAATGACTC
VEGFA	CAAATGTGAATGCAGACCAAAGA	ATTAGACAGCAGCGGGCAC
CD31	CAGACGTGCAGTACACGGAA	GGAGCCTTCCGTTCTAGAGTATC
VEcadherin	CCCACAGGCACGATCTGTT	TGCCTACATGATGGGGAAGTG

3.1 Western blot



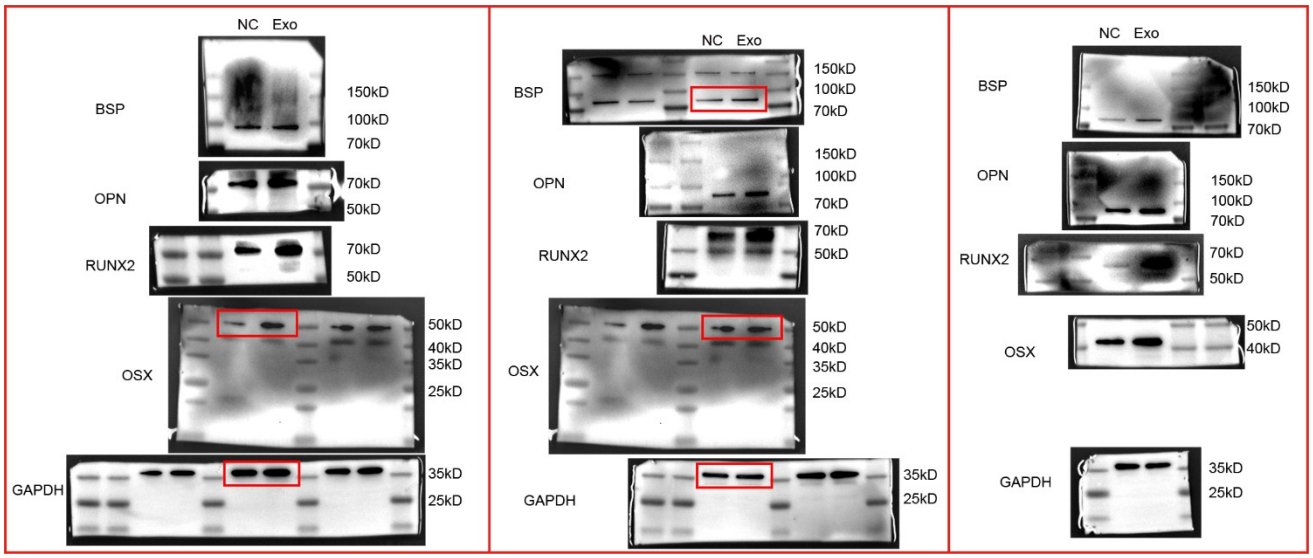
Supplementary western blot figure of **Figure 2**.

The proteins have similar molecular weights, so the bands are displayed on different membranes.



Supplementary western blot figure of **Figure 4**.

The proteins have similar molecular weights, so the bands are displayed on different membranes.



Supplementary western blot figure of **Figure 5**.

The proteins have similar molecular weights, so the bands are displayed on different membranes.