

Title: Serum exosomal coronin 1A and dynamin 2 as neural tube defect biomarkers

Journal: Journal of Molecular Medicine

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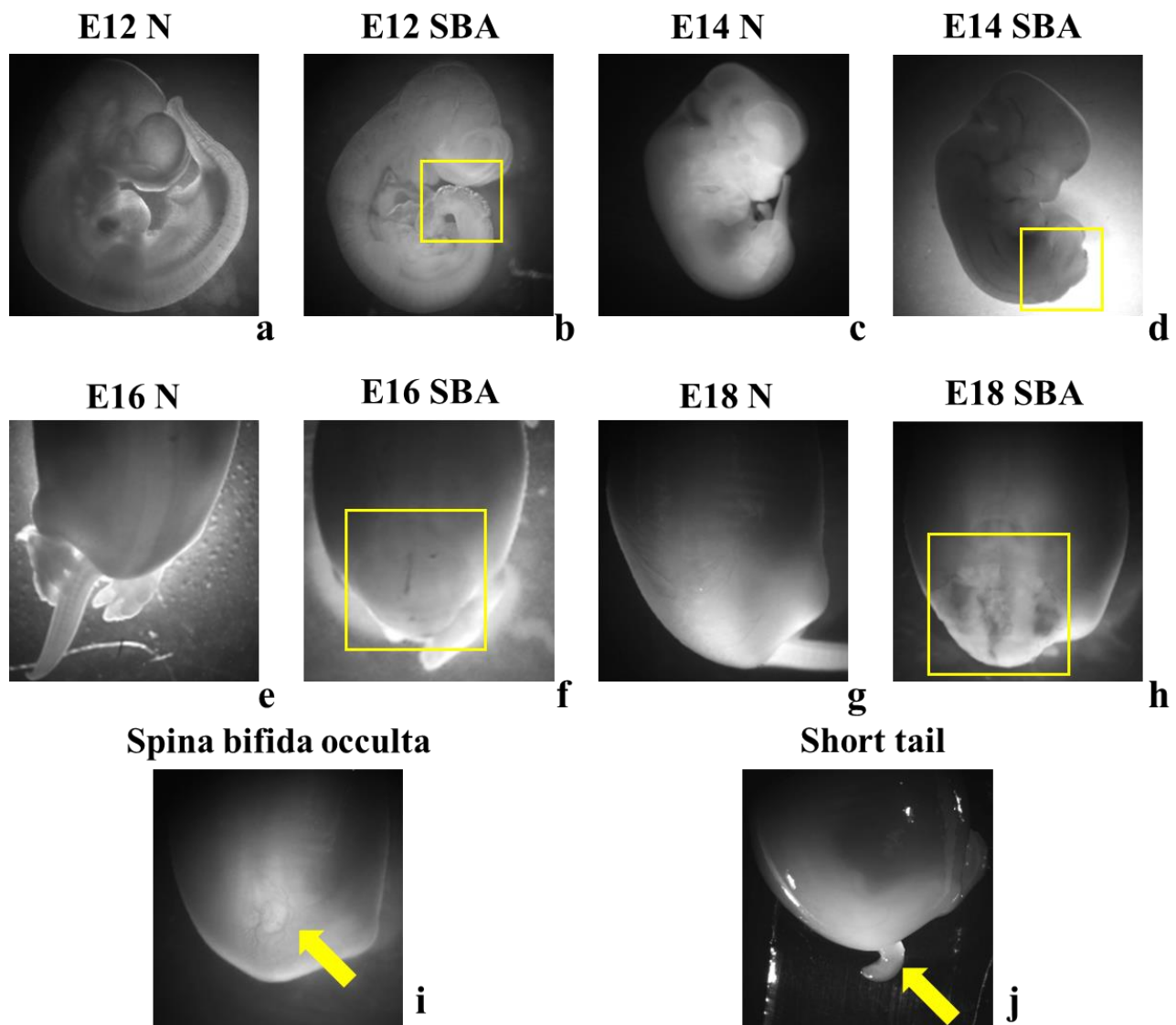
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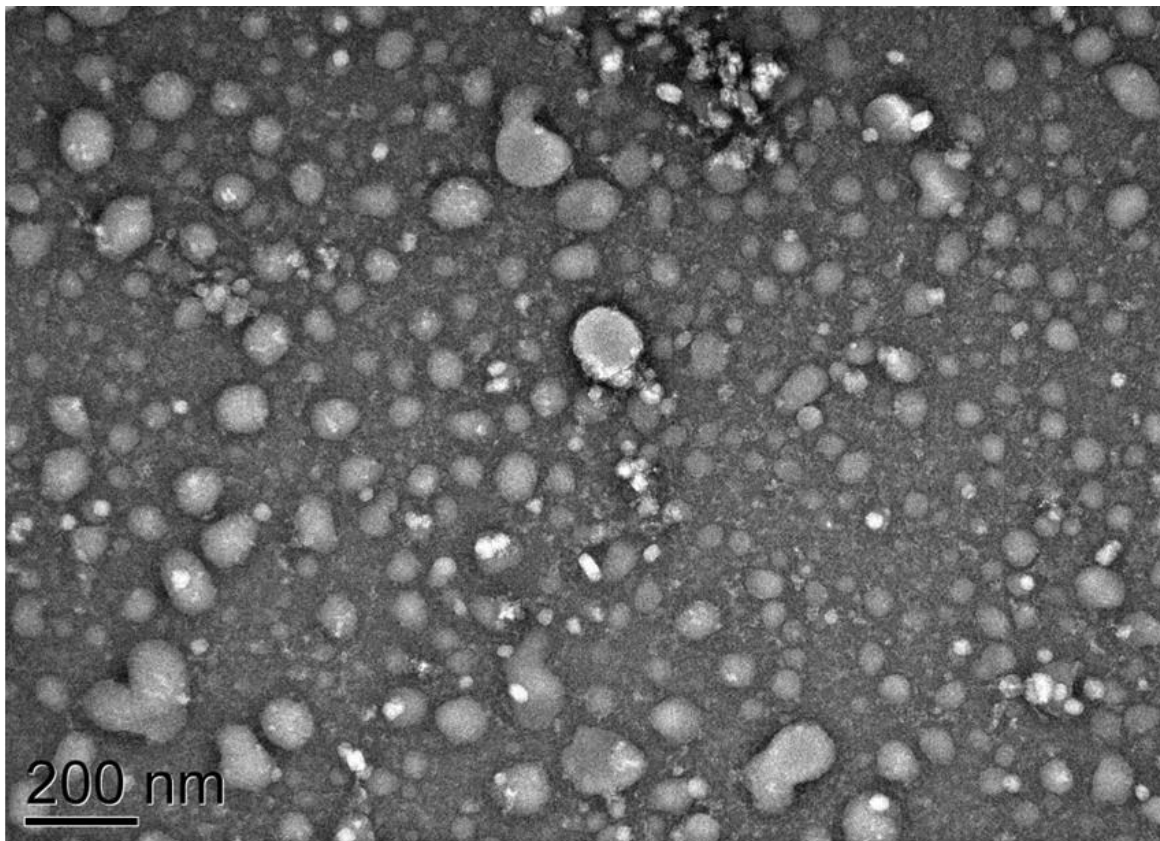
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Supplementary Fig. 1-10

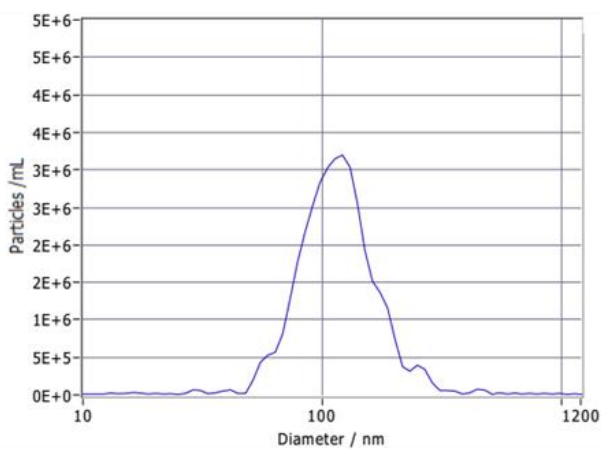
Supplementary Fig. 1 The typical images of spina bifida aperta (SBA) and other neural deformities. (a) Normal fetus at E12. (b) SBA fetus at E12 (The defect position marked in the yellow box). (c) Normal fetus at E14. (d) SBA fetus at E14 (The defect position marked in the yellow box). (e) Normal fetus at E16. (f) SBA fetus at E16 (The defect position marked in the yellow box). (g) Normal fetus at E18. (h) SBA fetus at E18 (The defect position marked in the yellow box). (i) Fetus with spina bifida occulta at E18. (j) Fetus with short tail at E18



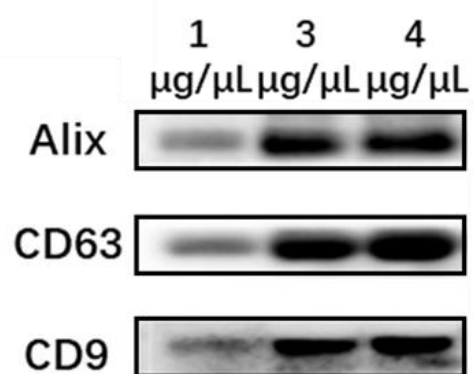
Supplementary Fig. 2 Exosome characterization. (a) Representative imaging of transmission electron microscope of exosomes isolated from serum: correct structure and size from 30-150 nm. (b) Dynamic light scattering of exosomes isolated from serum: adequate purity with peak means at 100 ± 5 nm diameter. (c) Western blotting analysis of exosomal biomarkers (Alix, 95 kDa; CD63, 26 kDa; CD9, 24 kDa) at increasing concentration at 1, 3, and 4 $\mu\text{g}/\mu\text{L}$ with the same trends



a

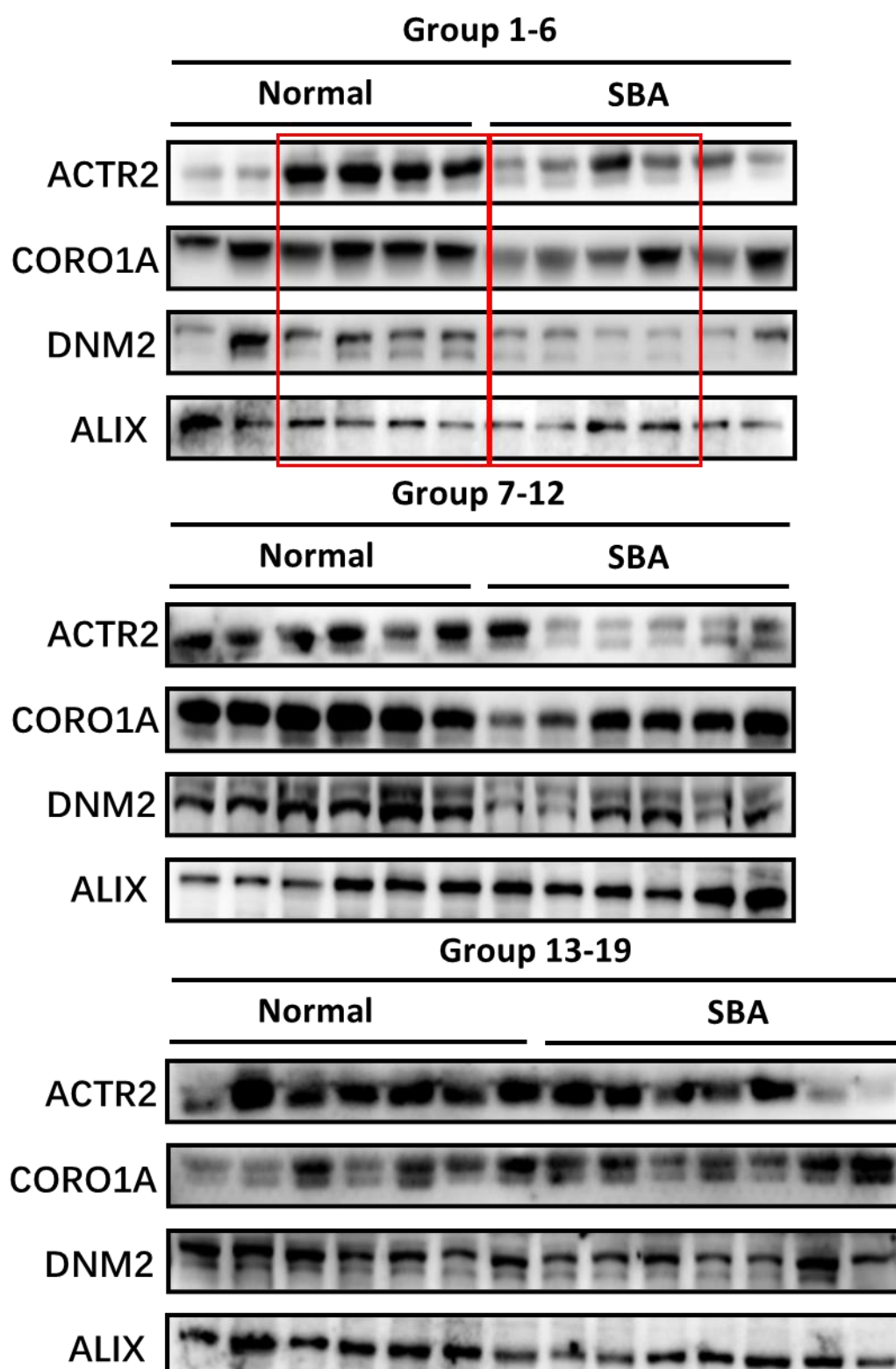


b

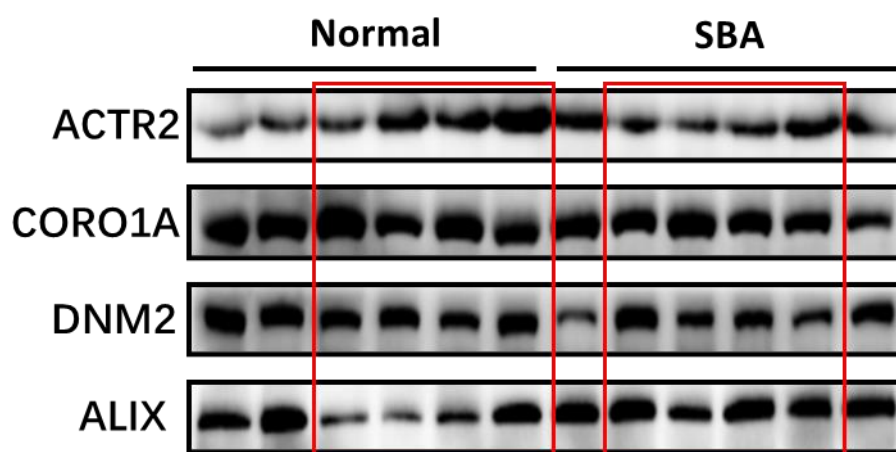


c

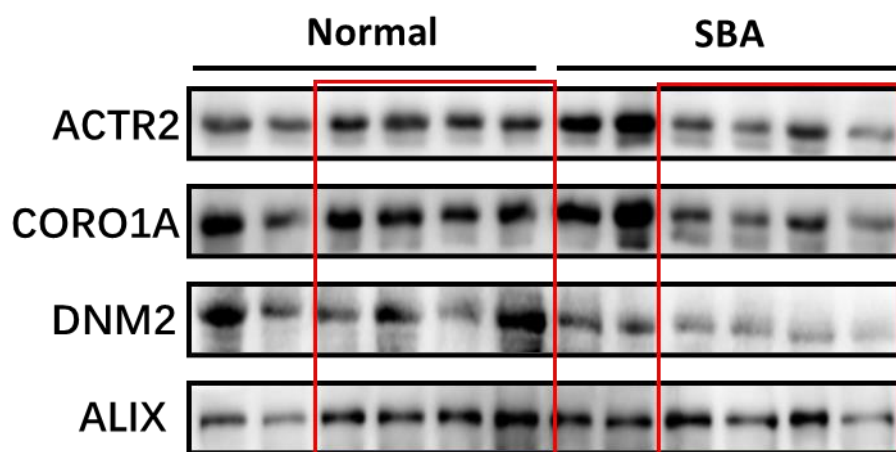
Supplementary Fig. 3 Complete western blot bands of E18 serum exosome for statistical analysis and the 4 representative bands in the main text Fig. 2a marked in the red box



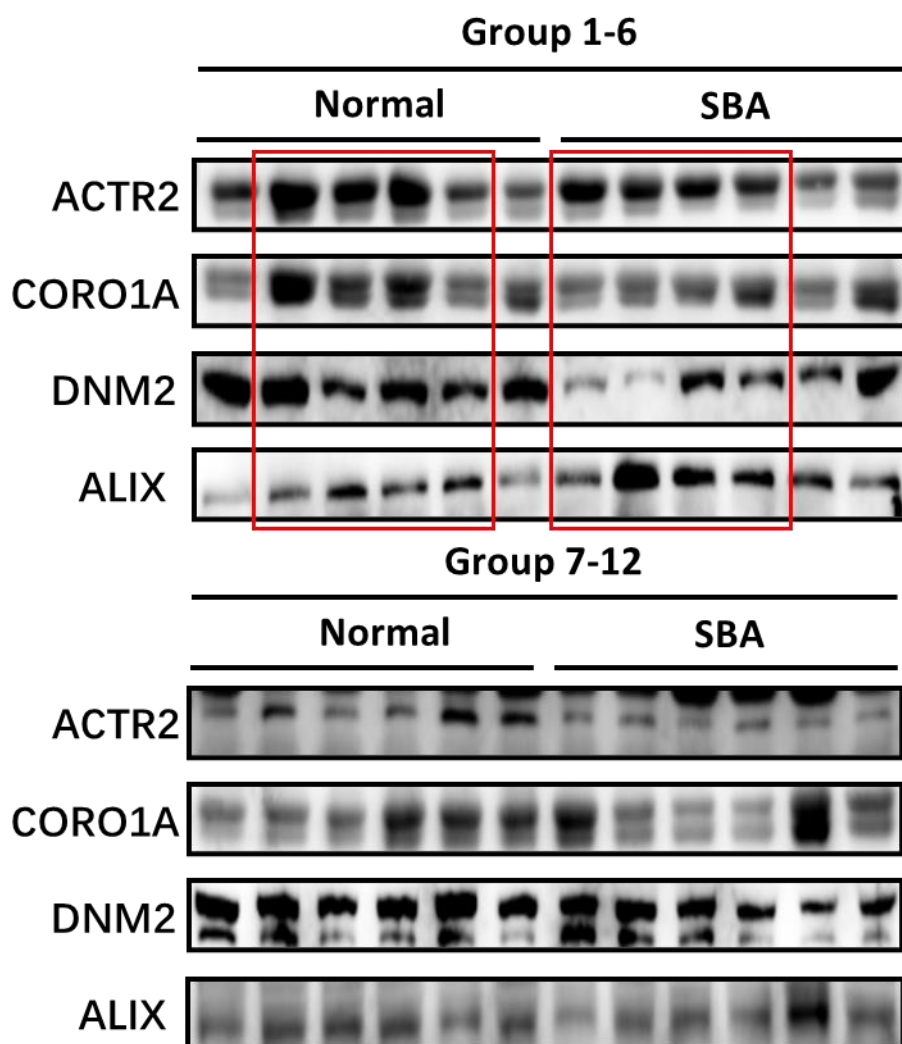
Supplementary Fig. 4 Complete western blot bands of E16 serum exosome for statistical analysis and the 4 representative bands in the main text Fig. 2b marked in the red box



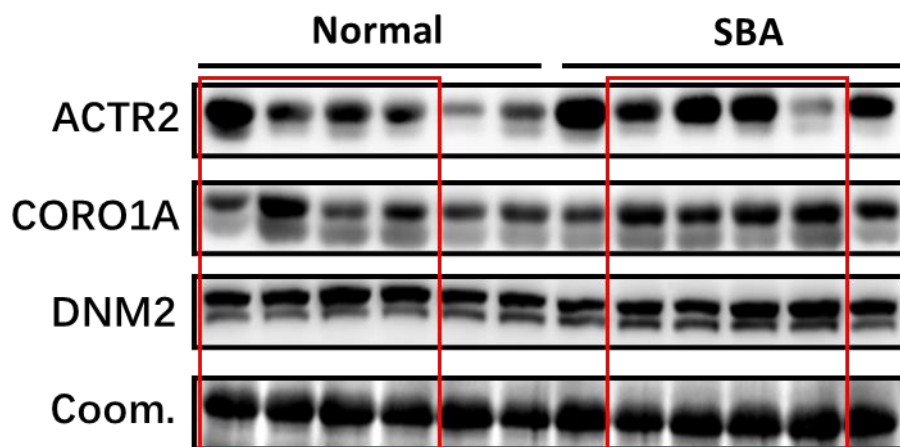
Supplementary Fig. 5 Complete western blot bands of E14 serum exosome for statistical analysis and the 4 representative bands in the main text Fig. 2c marked in the red box



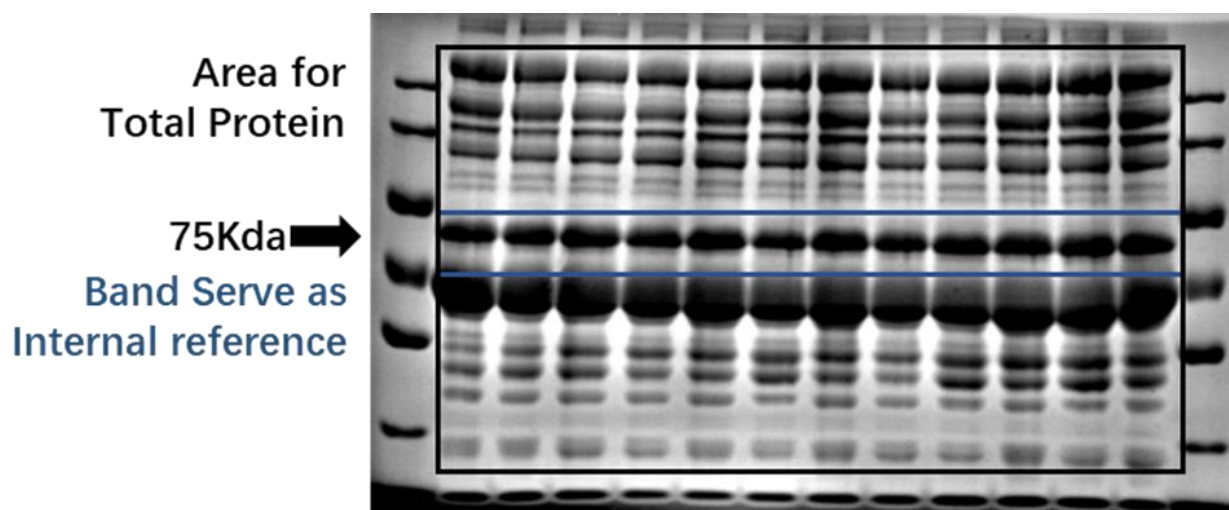
Supplementary Fig. 6 Complete western blot bands of E12 serum exosome for statistical analysis and the 4 representative bands in the main text Fig. 2d marked in the red box



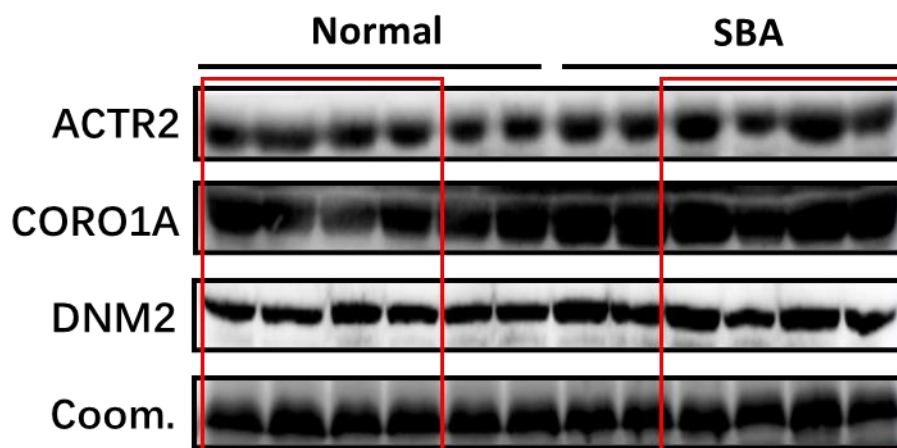
Supplementary Fig. 7 Complete western blot bands of E18 serum for statistical analysis and the 4 representative bands in the main text Fig. 2e marked in the red box



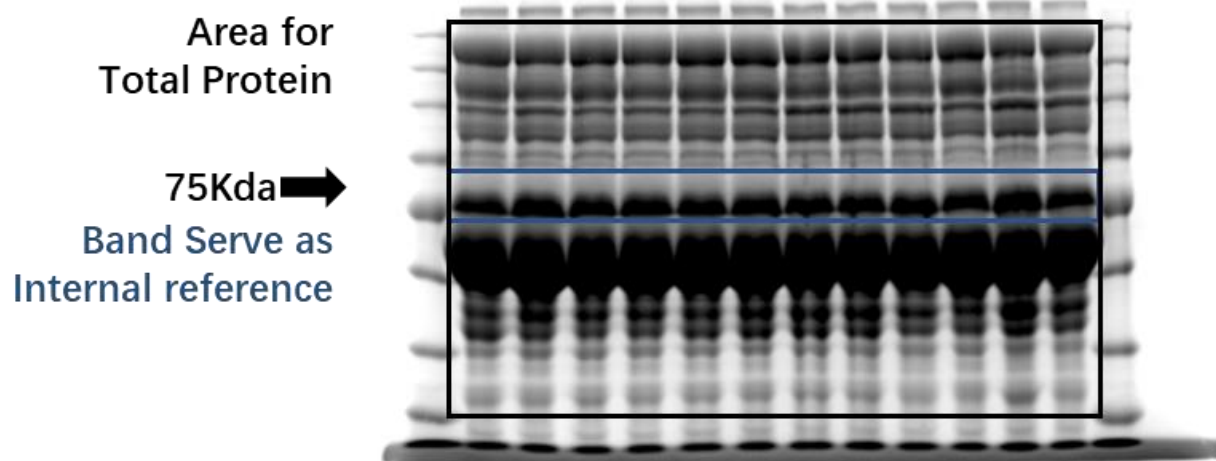
Coomassie staining of total protein of E18 serum as loading control



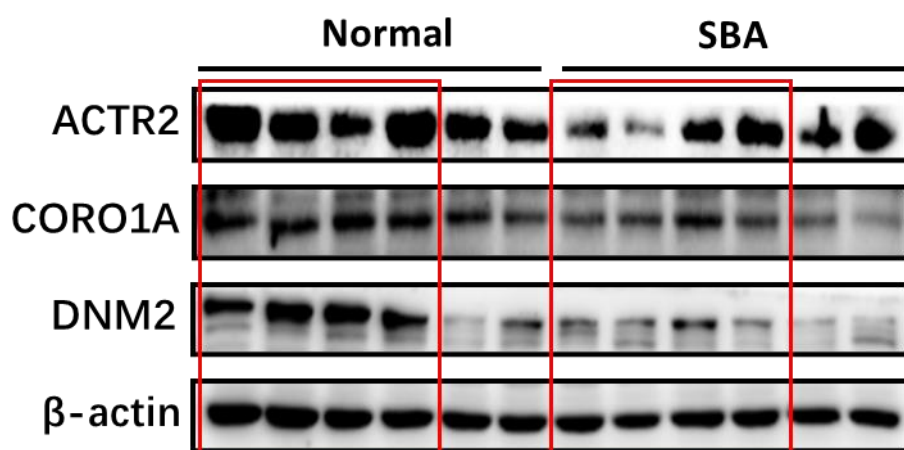
Supplementary Fig. 8 Complete western blot bands of E12 serum for statistical analysis and the 4 representative bands in the main text Fig. 2f marked in the red box



Coomassie staining of total protein of E12 serum as loading control



Supplementary Fig. 9 Complete western blot bands of E18 spinal cord for statistical analysis and the 4 representative bands in the main text Fig. 3a marked in the red box



Supplementary Fig. 10 Complete western blot bands of E12 neural tube for statistical analysis and the 4 representative bands in the main text Fig. 3b marked in the red box

