***Identification of primary cortical neurons***

On the third day of culture, the cell body of primary cortical neurons became larger, and the cells showed diversity, which was mostly shaped in spindle, triangular and round. Cell processes were thickened and elongated. Bipolar or multistage neurons could be seen. Cell processes interwove into an open network (Figure S1A). After 7 days of culture, the cell body of neurons further enlarged with extended processes which formed a complex and tight neural network (Figure S1B). NSE immunofluorescence results showed that the proportion of neurons in primary cells was high, with good morphology and large and clear nucleus (Figure S1C). At this time, the neurons were mature and stable, and could be used for the experimental model for further experiments.