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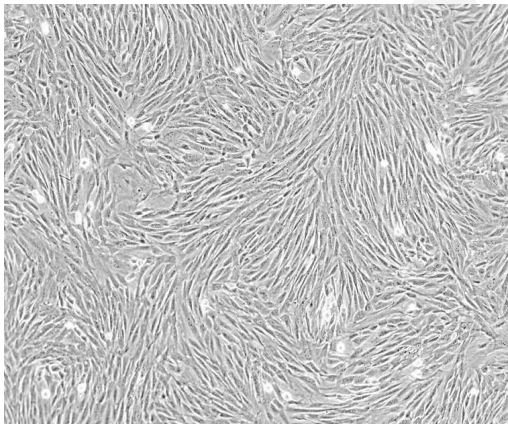
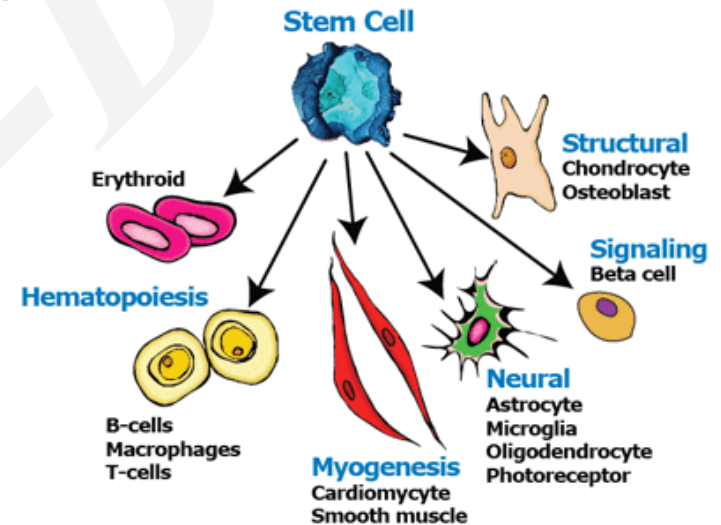
Identification of neuron-related genes for cell therapy of neurological disorders by network analysis

Key words: Neuronal differentiation, BMSCs, Protein–protein interaction network, Differentially expressed genes (DEGs)

Research Summary

This review mainly focused on identifying the hub genes in neuronal differentiation from BMSCs and the hub genes in neuronal development using softwares in the following .

- DAVID,
- STRING 10,
- BiNGO tool,
- Network Analyzer software



Innovation points

- Introduction of the advantage of BMSCs .

- Summary of the most research progress about factors inducing neuronal cell differentiation from BMSCs .

- Emphasis of high connectivity (hub genes) associated with neuronal differentiation from BMSCs and neuronal development.

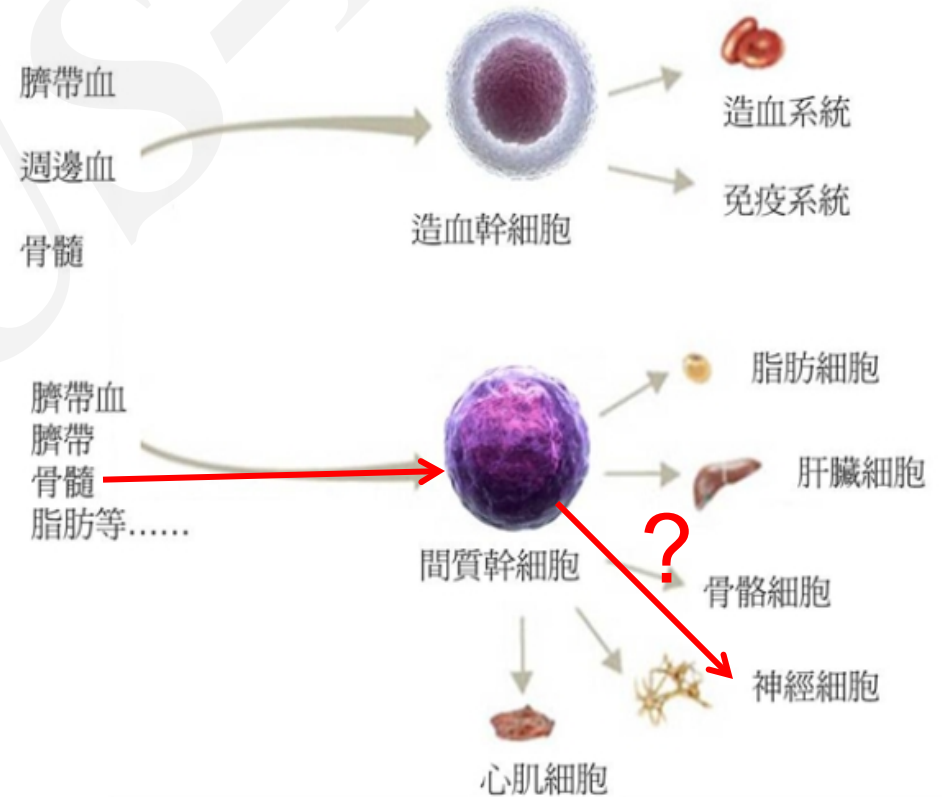


Figure 4

Innovation points

A series of comprehensive pictures and tables were generated to summarize the knowledge about neuronal differentiation from BMSCs and neuronal development..

Figure 1 | Cassette figures of the expression data before and after standardization

Figure 2 | Hierarchical cluster analysis of DEGs.

Figure 3 | GO enrichment analyses .

Figure 4 | GO terms in the networks were displayed as a network using BiNGO .

Figure 5 | . PPI networks of (a) neuron differentiation (GO:0030182), (b) neuron development (GO:0048666) and (c) regulation of cell proliferation (GO:0042127) biological process.

Table 1. The genes in GO terms of neuron differentiation and regulation of cell proliferation

Table2. Key genes selected based on visualize parameters like BC and degree