

## Editorial of Cloning and Transgenesis

Zhifeng Gu\*

Nantong University, China

### Clinical Pathogenesis Research of Autoimmune Disease

T1DM (type 1 diabetes mellitus) is an autoimmune disease characterized by T-cell-mediated damage of islet  $\beta$ -cells. The pathology of NOD (non-obese diabetic) mouse involves the insulinitis induced by infiltration of T-cells, a similar pathogenic mechanism in T1DM patient. Our results indicated that the suppression of PI3K-Akt pathway is involved in the decreased adhesion and migration of BM-MSCs from NOD mice. Our study also indicated that NOD-MSCs also have abnormal retinal neuron-like differentiation potential. The inhibition of *Wnt/ $\beta$ -catenin signaling* in NOD-MSCs after induction could contribute to the abnormal retinal neuron-like differentiation [1,2].

### Bone Marrow Mesenchymal Stem Cell Senescence

Our studies have indicated that bone marrow-derived mesenchymal stem cells (MSCs) from patients with systemic lupus erythematosus (SLE) exhibited impaired proliferation, differentiation, and immune modulation capacities. MSCs from SLE patients were senescent and that p16 (INK4A) plays an essential role in the process by inhibiting ERK1/2 activation. MSCs may be associated with the pathogenesis of SLE [3].

### Stem Cell Transplantation

Our recent evidence indicates that transplantation of human MSCs and murine BM-MSC can significantly improve the autoimmune conditions in MRL/lpr mice. We found that MSCs transplantation may suppress the excessive activation of B cells via inhibiting BAFF production in MRL/lpr mice [4,5].

### Psychological Anxiety, Depression and Sexual Problems of Autoimmune Patients

While the physical impact of ankylosing spondylitis (AS) is central

to clinical treatment, the anxiety, depression and sexual problems, associated with AS are often overlooked. These problems may be related to a variety of undocumented demographic parameters, physical impairments, and psychological problems. Both physical and psychological factors were shown to impact the anxiety, depression and sexual problems in Chinese AS patients. Our research could effectively manage AS in clinical settings, and help rheumatologists and nursing specialists aware of the condition's impact on sexual health, and consider both physical outcomes, such as disease activity and physical function, as well as psychological well-being [6].

### References

1. Xu Y, Gu Z, Shen B, Xu G, Zhou T, et al. (2013) Roles of Wnt/ $\beta$ -Catenin Signaling in Retinal Neuron-Like Differentiation of Bone Marrow Mesenchymal Stem Cells from Nonobese Diabetic Mice. *J Mol Neurosci* 49:250-261.
2. Li L, Xia Y, Wang Z, Cao X, Da Z, et al. (2011) Suppression of the PI3K-Akt pathway is involved in the decreased adhesion and migration of bone marrow-derived mesenchymal stem cells from non-obese diabetic mice. *Cell Biol Int* 35: 961-966.
3. Gu Z, Cao X, Jiang J, Li L, Da Z, et al. (2012) Upregulation of p16INK4A promotes cellular senescence of bone marrow-derived mesenchymal stem cells from systemic lupus erythematosus patients. *Cell Signal* 24: 2307-2314.
4. Gu Z, Akiyama K, Ma X, Zhang H, Feng X, et al. (2010) Transplantation of umbilical cord mesenchymal stem cells alleviates lupus nephritis in MRL/lpr mice. *Lupus* 13: 1502-1514.
5. Ma X, Che N, Gu Z, Huang J, Wang D, et al. (2012) Allogeneic mesenchymal stem cell transplantation ameliorates nephritis in lupus mice via inhibition of B-cell activation. *Cell Transplant*.
6. Shen B, Zhang A, Liu J, Da Z, Xu X, et al. (2012) A primary analysis of sexual problems in Chinese patients with ankylosing spondylitis. *Rheumatol Int*.

\*Corresponding author: Zhifeng Gu, Associate Professor, Nantong University, China, E-mail: [guzhifeng@126.com](mailto:guzhifeng@126.com)

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