<u>Cite this as</u>: Sovichea LAY, Hai-ning YU, Bao-xiang HU, Sheng-rong SHEN, 2016. Inhibitory effect of Gardenblue blueberry (*Vaccinium ashei* Reade) anthocyanin extracts on lipopolysaccharide-stimulated inflammatory response in RAW 264.7 cells. *Journal of Zhejiang University-Science B (Biomedicine & Biotechnology)*. **17**(6): 425-436. http://dx.doi.org/10.1631/jzus.B1500213

Inhibitory effect of Gardenblue blueberry (*Vaccinium ashei* Reade) anthocyanin extracts on lipopolysaccharide-stimulated inflammatory response in RAW 264.7 cells

Key words: Gardenblue Blueberry (*Vaccinium ashei* Reade) anthocyanin extracts (GBBAEs), anti-inflammatory, RAW 264.7, COX-2, NF-κBp65

Research Summary

This study mainly concertrated on the anti-inflammatory capacity and mechanisms of Gardenblue Blueberry (*Vaccinium ashei* Reade) anthocyanin extracts in lipopolysaccharide-stimulated RAW 264.7 cells in vitro in the following aspects:

- cell growth and cytotoxicity
- the production of different cytokines
- the mRNA expression levels
- the relative proteins expression levels







Innovation points

• Introduction of the potential and functional use of blueberries in the treatment of inflammatory diseases.

• Summary of the cytotoxicity , the production of different cytokines, mRNA and protein expression expression levels in LPS-stimulated murine RAW 264.7 cells.

• Emphasis of the mechanisms of anti-inflammatory through NF-kB pathways in Gradenblue Blueberry (*Vaccinium ashei* Reade) anthocyanin extracts for the first time.



Innovation points

A series of comprehensive figures were generated to explored the anti-inflammatory mechanisms and pathways of Gardenblue Blueberry (*Vaccinium ashei* Reade) anthocyanin extracts in RAW 264.7 cells in vitro.

Figure 1 Identification and analysis of major compounds in GBBAEs.

Figure 2 Effects of GBBAEs on cell viability of murine RAW 264.7cells.

Figure 3 Effects of GBBAEs on production of NO.

Figure 4 Effects of GBBAEs on secretion of different cytokines.

Figure 5 Effects of GBBAEs on mRNA and the protein expression expression levels.

Figure 6 The schematic diagram about the pathway of GBBAEs.