Perspective: Role of Autophagy in Neuroprotective Properties of Traditional Chinese Medicines

Vincent Kam Wai Wong, Wu Zeng and Betty Yuen Kwan Law*

***Corresponding author:**

In fact, recent literatures have identified new chemicals that enhance the clearance of neurodegenerative disease proteins via autophagy [38]. For example, rapamycin, a well-studied autophagy inducer, can increase autophagic clearance of mutant proteins *in vivo* significantly [5,19,39]. However, it possesses severe adverse effects in protein synthesis, cell proliferation and immunological function [1,40]. For this reason, identification of novel active chemicals that can facilitate the autophagic degradation of aggregate-prone or mutant proteins with minimal side effects would be an appropriate direction for novel drug discovery in neuro-therapy. However, incorrect dosage, uncertain or high toxicity of herbal decoction and improper selection of solvent for herbal compounds are the major problems in clinical application of TCMs currently. Therefore, special cautions are required when applying TCMs for clinical practices [41]. As a matter of fact, there has been a long history of using TCMs prescription in modulating neurodegenerative [42] or aged-related disorders such as dementia and AD [43]; or aged-related physical symptoms such as insomnia or anxiety in the Chinese community [44]. To this end, connecting the traditional therapeutic functions of TCMs with modern neuropharmacology, together with the precise isolation and characterization of the active components from active TCMs, would be an important and practical topic for novel drug discovery and development of neuro-therapy in the future.

This work was supported by FDCT grant from the Science and Technology Development Fund of Macao (Project code: 090/2013/A3).

1. Levine B, Kroemer G (2008) Autophagy in the pathogenesis of disease. Cell 132: 27-42.
2. Law BY, Wang M, Ma DL, Al-Mousa F, Michelangeli F, et al. (2010) Alisol B: A novel inhibitor of the sarcoplasmic/endoplasmic reticulum Ca(ck lMaǏohagicer, ȩ plasmic r cculum´ Cegate/ t ǫ]]l h" s
/E /' D DXWP6ø YHUH R$