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Mitochondrial stress and disease

XueFu

Guizhou Provincial People's Hospital, China

Mitochondria are double-membrane organelles and are well known for the production of ATP via tricarboxylic acid cycle and aerobic respiration. Mitochondria also involved in fatty acid oxidation and oxidative phosphorylation. When the misfolded or misassembled proteins accumulate and overload in the matrix leading to increased the nuclear-encoded chaperonin proteins and protease which evoke mitochondrial unfolded protein response or mitochondrial stress. Different adverse environmental conditions such as exercise, fatigue, disease, oxidative stress, cold shock and the inhibitor of respiratory electron transport chain can cause varying degrees of mitochondrial stress. Upon the early stage of stress, several mitochondrion-to-nucleus signaling pathways, or retrograde responses have evolved to protect mitochondria and maintain cellular homeostasis. A gradual decrease of mitochondrial function is one of the main pathological events in neurological disorders. It is meaningful to study the physiological role of UPRmt in development, health, disease and aging during stress.

Biography

XueFu has completed her PhD at the age of 27 years from TianJin Medical University. She is working at the Guizhou Provincial People's Hospital. She has published 5 SCI papers as first author and more than 10 papers in reputed journals.

705230941@qq.com