

Cellular stress in oncogenesis and therapy: proteostasis, redox regulation, and glutamine metabolism

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Facilitator	:	Prof. Li Min

Abstract

Cancer cells are often under various stress conditions owing to their rapid proliferation, poor vascularization, and anti-cancer therapy. My lab focuses on two major cancer-related stress conditions: protein misfolding and dysregulated cell metabolism. Protein misfolding leads to many molecular consequences such as increased reactive oxygen species (ROS), unfolded protein response signaling, and cell death. Inhibition of protein degradation is an emerging anti-cancer strategy. Cancer cells are also often under nutrient starvation condition including the limited supply of glutamine. Glutamine is a versatile amino acid that can serve as a nutrient molecule to fuel the tricarboxylic acids (TCA) cycle, as a nitrogen donor for biosynthesis of proteins and nucleotides, and as an exchanger for the uptake of essential amino acids. This talk will discuss my lab's recent research on the molecular regulation and therapeutic potential of cellular response to misfolded protein stress, and of oncogene-driven aberrant glutamine metabolism.

~ ALL ARE WELCOME ~