School of Natural Sciences
MCB Seminar

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Spying on ABC transporters to understand their Molecular mechanism of transport

By Dr. Maria Elena Zoghbi

Abstract:

ATP-binding cassette (ABC) transporters constitute one of the largest families of membrane proteins, and are found in all domains of life. ABC transporters use energy from ATP to transport a large diversity of substrates, including nutrients, lipids, xenobiotics, and even ions. Some of them, like P-glycoprotein, play a critical role in the development of multidrug resistance in cancer cells, and cause undesired drug/drug interactions. There is especial interest in understanding the molecular mechanisms of ABC transporters during their normal functioning and to determine how they can be modulated by therapeutic drugs. Our spectroscopic studies of ABC transporters provide information about their conformational changes while they hydrolyze ATP and move substrate. Our results have also stressed the importance of studying membrane proteins in near-native conditions. These studies are expected to provide useful information for the rational design of therapeutic drugs.

Biography:

Date:

Tuesday, December 13, 2016

Time:

12:00pm

Location:

SE1 270K

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