

Enhancement of Amphotericin B channel activity by applied pressures, in the range of MSchannels activation, in ergosterol containing membranes

Thursday 14 December 2023 15:40 (20 minutes)

For over 70 years, Amphotericin B (AmB), a polyene antibiotic, has been used for the treatment of severe invasive fungal infections. However, its clinical use is limited due to substantial collateral toxicity. The exact mechanism of AmB's action at the membrane level is still a subject of debate, with the prevailing hypothesis being the formation of membrane pores. The activity of these pores is influenced by various factors, including membrane lipid composition, sterol presens, relative concentration to lipids, membrane phase and presences of domains. In this study, we investigated the effect of applied normal pressure on the activity associated with AmB channels. Our findings demonstrate that an increase in applied pressure enhances the activity of AmB channels in a monotonous manner from 50 mmHg to 250 mmHg. We attribute this enhanced activity to structural changes in the membrane induced by the applied pressure. These results provide further support for the notion that membrane structure plays a crucial role in the action of AmB.

Resumen de la contribución

Author: HARO REYES, María Tammy (ICF, UNAM)

Presenter: HARO REYES, María Tammy (ICF, UNAM)

Session Classification: Contribuciones Orales