

# Transport of the organic cations gonyautoxin 2/3 epimers, a paralytic shellfish poison toxin, through the human and rat intestinal epitheliums

Andrinolo, Darío

Gomes, Pedro

Fraga, Sonia

Soares-Da-Silva, Patrício

Lagos, Néstor

The aim of this work is to study the mechanisms involved in gonyautoxins (GTXs) intestinal absorption. For this purpose, we studied the transport of GTX 2/3 epimers by intestinal epithelial cell lines (IEC-6 and Caco-2) cultured on polycarbonate filters. Specific transport was calculated by subtracting from the flux of GTX 2/3 measured at 37°C that occurring at 4°C, this being an indication of transcellular transport. The transcellular apical-to-basolateral (A-B) flux in Caco-2 cell monolayers, was greater than that in the opposite direction, suggesting the involvement of an active transport system favoring the absorption of the toxin. However, in IEC-6 cells the transcellular basolateral-to-apical (B-A) specific transport of the toxin was greater than that in the opposite direction. The A-B and B-A fluxes were, respectively,  $127 \pm 26$  and  $205 \pm 23$  nmol/min, suggesting the presence of a prevalent secretive process of the toxin in IEC-6 cells. The A-B transport of GTX 2/3 epimers in Caco-2 ce