

## Sealed reticulocyte ghosts. An experimental model for the study of Fe<sup>2+</sup> transport

Nunez,

Escobar,

Ahumada,

Gonzalez-Sepulveda,

Sealed right-side-out reticulocyte ghosts transported and accumulated iron offered as <sup>59</sup>Fe<sup>2+</sup>-ascorbate ( $K(m) = 1.1 \mu M$ ). The uptake of iron by ghosts presented the characteristics of a transporter-mediated process: it responded to osmotic challenge, the rate of transport increased when iron was present in the opposing side, and the transport rate showed the temperature dependence typical of membrane-mediated processes. The transport of iron was dependent on an associated influx of Cl<sup>-</sup> in order to keep electroneutrality. Other transition metals, such as Cu<sup>2+</sup>, Zn<sup>2+</sup>, and Co<sup>2+</sup>, inhibited the transport of Fe<sup>2+</sup>. The overall characteristics of the system make reticulocyte sealed ghosts a very useful model in determining the basic mechanisms of membrane iron transport.