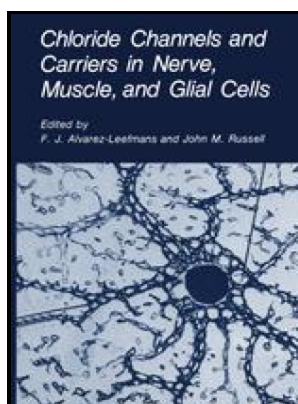


# Cell volume regulation

## Karger - Osmosis, Water Channels, and the Regulation of Cell Volume



Description: -

-  
Water-Electrolyte Balance.  
Osmotic Pressure.  
Cells -- physiology.  
Cell Membrane Permeability.  
Biological Transport.  
Cell membranes.  
Biological transport -- Regulation.  
Cellular control mechanisms. Cell volume regulation

-  
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Comparative physiology ; Cell volume regulation

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### Osmosis, Water Channels, and the Regulation of Cell Volume

The development of the current culture medium systems that permit in vitro development of human embryos from fertilized oocytes to blastocysts paralleled the advances first achieved in mouse, hamster and cow.

### Cell Volume Regulation in Immune Cell Function, Activation and Survival

What these processes have in common is — the movement of water from a region of lower solute concentration to a region of higher solute concentration.

### Cell volume regulation: physiology and pathophysiology

The sodium becomes an extracellular cation to which the membrane is effectively impermeable.

### Cell volume regulation: osmolytes, osmolyte transport, and signal transduction

This must also occur in vivo, since free glycine is almost undetectable in GV oocytes but in mature MII oocytes it has reached the same high levels found in 1-cell embryos Fig. The functions of IF are not fully understood. The initiation of independent cell volume regulation begins with the release of the adhesion between the oocyte and the zona pellucida A just after ovulation, followed by the initiation of glycine transport via GLYT1 B.

### Cell Volume Regulation Modulates NLRP3 Inflammasome Activation

The decrease in cell volume after ovulation is triggered and the concomitant activation of GLYT1, along with the release of oocyte zona pellucida adhesion during this time, appears to be the initiation of independent cell volume control in the nascent organism. Glycine or GLYT1 inhibition had no effect at 250 mOsm, but glycine rescued normal cell size at 350 mOsm, while this rescue was reversed when GLYT1 was inhibited. This space is not, however, present in GV oocytes immediately after they are removed from follicles, where the oocyte surface is closely apposed to the zona.

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