The Roles of Aquaporins in Inflammatory and Ischemic Diseases

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Abstract：Aquaporins（AQPs）are membrane proteins that function as a water channel and, in some cases, also transport small solutes such as glycerol and CO_2. AQPs are expressed in various tissues such as the kidney, lung, brain, skin, and glandular epithelia. Abnormalities of water metabolism are one of characteristics of inflammatory and ischemic diseases. However, their molecular mechanisms are poorly understood. Pathophysiological stimuli modulate the AQP expression level in inflammatory and ischemic tissues. This short review summarizes the pathophysiological roles of AQPs in abnormal water metabolism of lung, skin, and kidney, based on studies with AQPs-deficient mice.

Key words：**Aquaporin, Gene Expression, Inflammation, Ischemia/Reperfusion, Water Metabolism**