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Taipei Veterans General Hospital and National Taiwan University Collaborate to Solve the Mystery of Chronic Kidney Disease ~ Discovery of TRPM8/DNAJB4 as Key to Treatment

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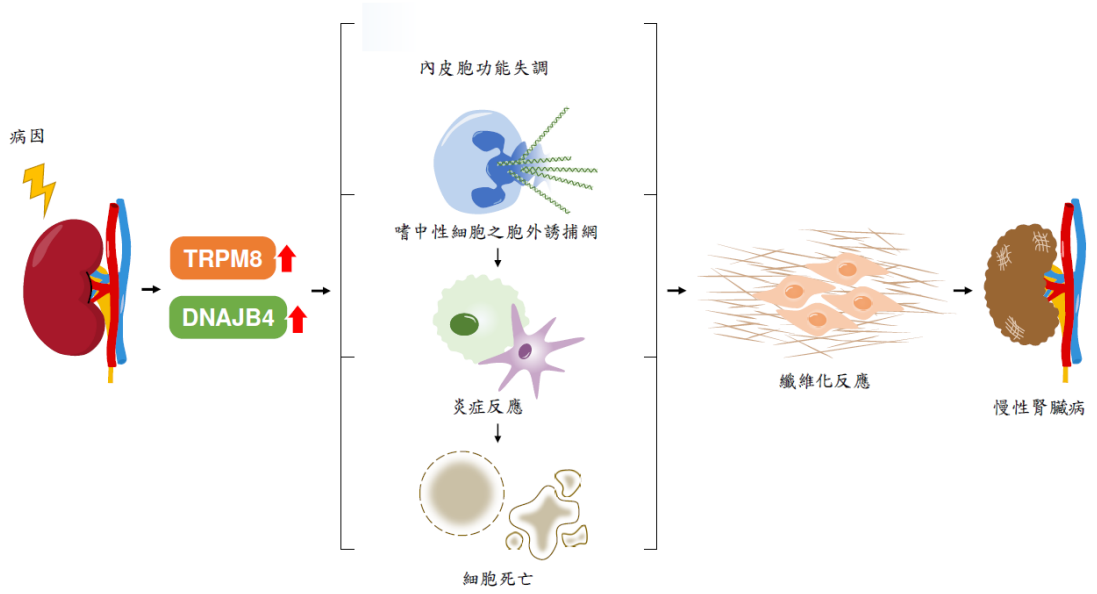
Taiwan continues to have a large number of patients with chronic kidney disease (CKD), and its dialysis rate is higher than any other country in world. In order to minimize the deterioration of the condition and to reduce the medical burden, the prevention and treatment of CKD must not be delayed. A collaborative research team from Taipei Veterans General Hospital and National Taiwan University Hospital recently made a major breakthrough by identifying two key proteins that are expected to play an important role in the treatment of chronic kidney disease: TRPM8 and DNAJB4.

The kidneys metabolize waste products in the body into urine and maintain the body's water and electrolyte balance. CKD occurs when the kidneys are damaged for more than three months, resulting in incomplete recovery of their structure or function.

A research team led by Dr. Der-Cherng Tarng, Chief of the Department of Medicine, Taipei Veterans General Hospital, Dr. Jenq-Wen Huang, Chief of Nephrology, Department of Medicine, National Taiwan University Hospital, and Prof. Tzong-Shyuan Lee, Graduate Institute of Physiology, National Taiwan University College of Medicine, found that the more severe the CKD, the higher the protein expression of TRPM8 and DNAJB4. Their further research shows that inhibiting the expression of these two proteins can effectively reduce inflammation and fibrosis in the kidney, thereby slowing the progression of CKD.

TRPM8 is generally thought to be associated with the activity of membrane calcium channels. Some studies have suggested that DNAJB4 plays an important role in stabilizing protein architecture in the body. In the course of CKD, an increase in TRPM8 expression will lead to endothelial cell dysfunction, reduce nitric oxide

production and damage the protective barrier of endothelial cells, thus aggravating renal fibrosis. Meanwhile, DNAJB4 can attract more white blood cells, leading to the worsening of kidney damage and apoptosis.



According to Drs. Der-Cherng Tarng and Jenq-Wen Huang, this series of studies demonstrates the critical role of TRPM8 and DNAJB4 in the process of CKD and provides an important direction for future therapeutic strategies for kidney disease.

The results of this important study will help to understand the pathogenesis of CKD. It is hoped that by inhibiting these two important proteins, the progression of kidney disease can be slowed and the prognosis of patients improved, offering new hope for clinical treatment.