

Target at Signaling Pathway: Hope to Prevent Alzheimer's Disease

About 360,000 people are diagnosed of having Alzheimer's Disease worldwide every year. It is speculated that Alzheimer's Disease will increase to its peak after 30 years. The prevention and treatment for Alzheimer's Disease then need immediate attention and action.

Alzheimer's Disease can be classified into two types: sporadic type and familial mutation. Most patients have the sporadic type and only 1-2% would be familiarly inherited. Forgetfulness and learning difficulties are the most obvious symptoms of Alzheimer's Disease.

The brain cells of patients die faster than normal people's. The rapid brain cell deaths cause brain shrinkage and reduction of brain activities. Hence, research on Alzheimer's Disease mainly focus on the understanding and prevention of brain cell deaths.

There are several signaling pathways causing brain cell deaths. The Department of Anatomy, the University of Hong Kong, firstly confirmed the relationship between a signaling pathway causing brain cell deaths named Double-stranded RNA-dependent protein kinase (PKR) and Alzheimer's Disease in 2002. All cells in human body die when the PKR pathway is activated while the Department at HKU is the first to further recognize the significant role the PKR pathway plays in neuronal apoptosis in 2003.

The Department has been investigating the prevention for Alzheimer's Disease by Chinese medicine since 2004, Gouqizi is used for anti-aging and is found to be able to reduce the activation of the PKR pathway.