

Alzheimer's disease and Cancer

An "old-age" diseases with an "age-old" solution



Prof. K.S. Rangappa

Distinguished Professor

Institution of Excellence, University of Mysore, India

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Abstract

Drug discovery' has historically been based on phenotypic readouts on the organism level, such as the effect of synthetic heterocycles or other natural products on humans. In my talk, I will focus on the major health complications that are threatening the globe (Cancer and Alzheimer's disease) and the role of chemist in preparation of bioactive synthetic small molecules against these diseases. Alzheimer's disease (AD) is a neurodegenerative disorder that progresses with advancement in age. AD is characterized by impaired memory, reduced cognitive abilities which may finally lead to memory loss. AD is generally regarded as old-age disease, but recent clinical findings alarmingly report the onset of AD at younger ages in western countries. Cancer is one of the top-ranked diseases with high mortality rate. Cancer is characterized by unregulated proliferation of cells and there are more than 100 types of cancers that affect lung, breast, colon, liver, prostate, skin and blood cells. The early detection of cancer contributes to improved prognosis. Unfortunately, cancers are often diagnosed at advanced stages which contributes to poor prognosis. I will also discuss on small molecules that are synthesized in my laboratory, their molecular targets, mechanism of action, and their role as possible therapeutic agents against Cancer and AD.

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