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(57) Abstract :
A composition for mitigating cognitive impairment and neuroinflammation caused by chronic stress includes Beta-Caryophyllene (BCP), a natural cannabinoid receptor 2 (CB2) agonist. This composition is effective in modulating the TWEAK-Fn14 pathway, thereby protecting neurons from oxidative damage, reducing inflammation, preventing cognitive decline and neuronal apoptosis, and improving cognitive function. The composition is formulated for oral administration and is effective in treating a chronic unpredictable stress model of dementia. It improves social interaction, reduces anxiety-like behavior, enhances spatial memory, and reduces oxidative stress parameters and neuroinflammatory markers. Additionally, it prevents histopathological changes in the brain associated with chronic stress.

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