

Lychee Seed Fraction (LSF) Suppressed $A\beta_{1-42}$ -induced Neuroinflammation, Apoptosis and Facilitated Viabilities of PC12 Cells via NF- κ B Signalling Pathway

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ABSTRACT Traditional Chinese medicines have been widely used for Alzheimer's disease (AD) treatment. This study examined impacts of lychee seed fraction (LSF) on modulating PC12 cell apoptosis, viability and inflammatory responses after $A\beta_{1-42}$ induction. CCK-8 was applied to measure PC12 cell viabilities, showing that $A\beta_{1-42}$ -induced low PC12 cell viabilities were promoted by LSF treatment dose-dependently. Moreover, using JC-1 staining, mitochondrial membrane potential (MMP) was suppressed with $A\beta_{1-42}$ induction while LSF treatment reversed impacts of $A\beta_{1-42}$. LSF also suppressed $A\beta_{1-42}$ -induced elevated TNF- α , IL-1 β and iNOS mRNA and protein expressions. Additionally, LSF treatment restrained $A\beta_{1-42}$ -induced apoptosis through downregulating cleaved-PARP and Bax protein expressions and upregulating Bcl-2 protein expressions. Furthermore, LSF also downregulated I κ B α and phosphorylated p65 protein expressions in PC12 cells after $A\beta_{1-42}$ induction. Hence, LSF restrained $A\beta_{1-42}$ -induced low PC12 cell viability and high apoptosis through suppressing Bax and cleaved-PARP and elevating Bcl-2 via NF- κ B signalling pathway.