NT-28. NEUROPROTECTIVE EFFECTS OF BACOPA MONNIERI AND ROSMARINUS OFFICINALIS SUPERCritical CO2 EXTRACTS
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Ethnobotanical evidence suggests that herbs such as brahmi (Bacopa monnieri) and rosemary (Rosmarinus officinalis) may possess anti-oxidant and neuroprotective properties. We compared the anti-oxidant and neuroprotective effects of supercritical extract of Bacopa monnieri (BM) and rosemary anti-oxidant (RA) extract obtained from Rosmarinus officinalis as well as their combination in a study examining the effects on human glial (U-87 MG) and embryonic mouse hypothalamus (EMH) cells. BM, RA and their combination (1:1) are not cytotoxic in both glial and EMH cell lines up to 200 μg/ml concentrations. BM + RA combination has better anti-oxidant potential and anti-lipid peroxidation activity than either agent alone. Although BM + RA showed almost similar inhibition of phospho tau expression as BM or RA alone, the combination has better inhibitory effect on Amyloid Precursor Protein (APP) synthesis and higher brain-derived neurotrophic factor (BDNF) production in hypothalamus cells than single agents. These results suggest that BM + RA is more neuroprotective than BM or RA individually.