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Alzheimer’s disease (AD) is the most common form of dementia. Until recently, AD is managed by relieving the cognitive symptoms without addressing one of the purportedly fundamental causes of the disease which is the formation of the amyloid plaques. The deposition and aggregation of β-amyloid are key events in the onset, progression and pathogenesis of AD. Thus one of the emerging strategies in treating AD is to inhibit the enzyme responsible for the formation of amyloid plaques, which is β-site amyloid cleaving enzyme (BACE-1). Endophytes are currently viewed as an outstanding source of bioactive natural products and may provide BACE-1 inhibitors as potential drug candidates for the treatment of AD. A novel bioactive compound, F70HAB16 was successfully isolated from a local endophytic strain and was found to inhibit the BACE-1 enzyme in vitro (IC50=13 μM). Oral treatment with 5 mg/kg of F70HAB16 for 14 days in scopolamine-induced memory deficit mice model was found to restore memory impairment caused by scopolamine in the radial arm maze and Morris water maze (MWM) tasks. The same treatment was found to improve spatial memory and learning in MWM tasks in a transgenic mice model of AD (B6.129TG) carrying the human APP Swedish mutation (K670N/M671L). Analysis of the blood plasma and brain tissue of the transgenic mice revealed that the expression of amyloidogenic proteins decreased following treatment with the BACE-1 inhibitor. Oxidative stress may play a significant but yet undefined role in the development of AD. It was found that the administration of 5 mg/kg of the F70HAB16 reduced the lipid peroxidation index and restored the antioxidant activities of catalase, superoxide dismutase, glutathione reductase and glutathione in the brain tissue of the scopolamine-induced mice model. The treatment with 5 mg/kg of F70HAB16 also redressed the level of nitric oxide in the scopolamine-induced mice. Hence F70HAB16 may prove to be beneficial in the treatment of AD by alleviating the oxidative stress associated with this disease. Furthermore, F70HAB16 also demonstrated neuroprotective properties on the cholinergic system of the scopolamine-induced mice. Finally, metabolomics study of the blood plasma revealed that F70HAB16 down-regulated sphingolipids such as dihydrosphingosine, phytosphingosine and C16-sphinganin. These metabolites were recently proposed as biomarkers for AD since they were found to be up-regulated in the blood plasma of AD patients.

because, to the modern generation, even of artists and craftsmen, these meanings are lost and these generations-old artefacts are viewed merely as beautiful visual art. This research seeks to solve this problem and the main objectives are (a) to analyse the roots of the selected traditional decorative motifs in the built environment in Ghadames old city of Libya; (b) to uncover the symbolic meanings of these decorative elements found in the architecture in Ghadames old city; and (c) to provide a deeper understanding of the evolution of traditional decorative elements, and symbols found in selected buildings in Ghadames old city in Libya. Towards this end, the researcher investigated a wide range of such art in various countries of the region to determine the history and influence of early colonial presence by various countries that has left this creative artistic legacy in the Old City of Ghadames. Within the framework of the study, the historical background of Ghadames’s art motifs in

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15

Since 1996, the Research and Development (R&D) sector in Malaysia has received greater policy attention than before. Despite fiscal and non-fiscal incentives provided to support the growth of this sector, the level of R&D measured in terms of R&D outputs (i.e. number of patent) is still dismal which is mirrored in the overall performance of local R&D companies. Many studies have investigated factors which influence the performance of organizations. The present study attempts to examine the relationship between human resource management (HRM) practices and organizational performance of R&D firms based on contingency theory and resource based view. The moderating role of interfirm collaboration and environment on the relationship between HRM practices and organizational performance are also studied. Organizational performance was measured in terms of profitability. The data for the study were obtained from survey responses from 64 R&D companies. Results of EFA and CFA confirmed the 4 dimensions of HRM practices: participation, reward, training and development, and teamwork practices. Regression results showed participation and reward practices have positive and significant relation with organizational performance while training and development practice has negative relation with organizational performance. There is no significant relationship between teamwork practice and organizational performance. Results also indicated that only collaboration in manufacturing significantly moderated the relationship between some of the HRM practices and organizational performance. Other types of interfirm collaborations did not show any moderating roles on the aforesaid relationships. Also, the present study found that environment was not a moderator in the relationship between HRM practices and organizational performance. Overall, the findings of the present study provide partial support of Contingency Theory and RBV. Theoretical contributions and managerial implications of the study as well as suggestions for future research were discussed.

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