

海洋生物萃取向 PON-1621 對多型性膠原母細胞瘤之抗血管新生活性 Marine-Derived Bioactive Compound PON-1621 Is A Potential Against Angiogenesis Molecular In Malignant Glioblastoma

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Malignant glioblastoma multiforme (GBM) is one of most aggressive cancer in primary central nervous system tumors. Most GBM patients cannot survival more than 5 years with traditional therapy. In GBM, angiogenesis plays an important role in tumor progression by stimulating blood vessel formation for supporting oxygen and nutrients in brain. Therefore, anti-angiogenesis could be one of effect way to stop or slow the growth of GBM. The ocean is good sources to search medicinal use of natural compounds because of its extreme environments that cause most marine have diversity structure of secondary metabolites differ from terrestrial creatures. In this research, we found marine-derived bioactive compound PON-1621, which was extract from marine sponge, affect the growth in GBM cell lines-U87MG and GBM8401 by MTT assay. In in vitro scratch assay, we observed PON-1621 highly inhibit migration in GBM8401. Furthermore, we evaluated the anti-angiogenesis ability of PON-1621 by in vivo transgenic fluorescent zebrafish (fli1: EGFP) model. In the same time, we found vascular endothelial growth factor A (VEGFA) gene, an important ligand of neovascularization, downregulation in PON-1621 treated fli1: EGFP transgenic zebrafish by real-time PCR. These results suggest that the marine-derived bioactive compound PON-1621 could be a potential anti-angiogenesis drug candidate that may represent a potential effective anti-angiogenesis agent against GBM.