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In vitro and *Insilico*analysis of the Anti oxidant and Angiogenic potential of *Padinatetrastomatica*

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Abstract: Marine seaweeds are used in Chinese medicine since ages. In the current study the antioxidant potential and angiogenic potential of *Padinatetrastomatica* was investigated.The phytochemical screening showed that the acetone extract was rich in polyphenol content (43.3mg/g). The acetone extract also exhibited antioxidant potential which correlated to the polyphenol content.The angiogenic potential of *Padinatetrastomatica*was analysed by the *in vivo*chorioallantoic membrane assay. The application of the acetone extract stimulated the budding of more blood vessels compared to the control. These results suggested that the polyphenols of the acetone extract may possess angiogenic potential. Hence, the common polyphenols including Phloroglucinol, Phlorofucofuroeckol and Scutellarein 4 methyl etherwere used for *in silico*interaction studies with VEGF receptor (VEGFR). Among these polyphenols, Phlorofucofuroeckol showed the best interaction with a total score of 5.34 followed by Scutellarein 4 methyl ether. The interaction results were compared with VEGF-VEGFR interaction. The results of the study put forth that polyphenols of *Padinatetrastomatica* have angiogenic potential and can be further analysed for efficient application in therapeutic angiogenesis.

Key words:*Padinatetrastomatica*,chorioallantoic membrane assay,Phloroglucinol, Phlorofucofuroeckol and Scutellarein 4 methyl ether, VEGFR.

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