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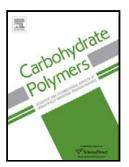
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ACCEPTED MANUSCRIPT

Sulfated polysaccharide from Sargassum tenerrimum attenuates oxidative stress induced reactive oxygen species production in in vitro and in zebrafish model

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Highlights:

- Sulfated polysaccharide (SP) was successfully isolated from Sargassum tenerrimum.
- The structural features of SP were characterized by FT-IR, GC-MS, ¹H NMR.
- The molecular weight of SP was found to be 31 kDa.
- SP possess in vitro anti-oxidant effects in fibroblast cells.
- SP exhibits a protective effect against H₂O₂ induced oxidative stress in zebrafish.

Abstract

The sulfated polysaccharide (SP) was isolated from the brown alga *S. tenerrimum*. The chemical composition of SP composed of $57 \pm 0.29\%$ of total sugar, $1.14 \pm 0.28\%$ of protein and $25.6 \pm 0.45\%$ of sulfate. Elemental analysis of SP shows 28.8% of carbon, 4.02% of hydrogen and 0.29% of nitrogen. The molecular weight of SP was estimated as 31 kDa. Further, the SP was characterized through FT-IR, ¹H-NMR, GC-MS, XRD and TGA analysis. The DPPH and ABTS

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