0.70 mg/mL) and also in scavenging hydrogen peroxide (IC_{50}< 0.20 mg/mL). The antioxidative properties exhibited significant correlation with antidiabetic, anti-inflammatory and antihypertensive activities (r^2>0.8) of the crude extracts derived from these species, which implied that the free-radical species are responsible for combating the pathologies of these prominent lifestyle diseases. The crude extracts from *G. salicornia* and *P. tetrastromatica* displayed significantly greater α-amylase inhibitory activity (IC_{50}~0.50 mg/mL) along with anti-cyclooxygenase/lipoxygenase (IC_{50} anti-COX-2 and anti-LOX-5~1 mg/mL) and angiotensin converting inhibitory enzyme (IC_{50}< 0.15 mg/mL) inhibitory potential. These results demonstrated that the seaweeds *G. salicornia* and *P. tetrastromatica* might be promising candidates to isolate high value compounds for pharmacological use.

FF PO 13

Green chemistry approach for screening of bioactive compounds from brown seaweeds by supercritical fluid extraction (SFE)

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Brown seaweeds hold immense interest in the development of drugs and dietary supplements since they possess rich constitution of bioactive compounds. The extraction using conventional solvents cause bioaccumulation and the consequent waste management concern results in huge environmental destruction as well. The innovative green chemistry approach must be a great move towards efficient extraction of bioactive compounds and through which environmental safety is ensured too. In the study, the extraction efficiency of supercritical carbon dioxide (SC-CO_2) at different pressures, duration and quantity of ethanol as modifier solvent has been presented. Health significant carotenoid fucoxanthin and different bioactive lipids in the brown seaweed species *Sargassum wightii* were of interest. A range of 4.56±0.12 to 19.09±0.43 mg/g extract fucoxanthin was obtained through SFE, which is a higher than that obtained through the conventional solvent extraction processes. Most of the fatty acids C14, C16, polyunsaturated fatty acids such as omega 3 ($C_{20:5}$, $C_{22:6}$), omega 6 ($C_{18:2}$, $C_{20:4}$) and omega 9 ($C_{18:1}$) were present in high amounts in all the fractions. A unique observation was that fatty acids such as Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) were in considerable amount in some of the extracts (Range: EPA [2.88±0.12 to 16.08±1.84] and DHA [1.44±0.02 to 2±0.08]). Thus it is clear that SFE can be suggested as an effective alternative of the use of hazardous solvents for the screening of bioactive compounds from nutrient rich brown seaweeds.

FF PO 14

Dietary supplementation of fish collagen peptides (FCP) ameliorates high fat-alcohol induced hyperlipidemia in experimental rats

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In the present study, an attempt was made to examine the antihyperlipidemic property of fish collagen peptides (FCP) prepared from the skin of hammerhead shark (*Sphyrnae mokkaran*) in experimentally induced hyperlipidemic rats with respect to the changes in the levels of lipid profile components and the activities of key lipid metabolic enzymes. The ABTS free radical scavenging assay exhibited the antioxidant potential of FCP prepared with enzymatic hydrolysis. The crude FCP and the ultrapurified fraction was found to exhibit 88.5% and 94.6% radical scavenging activity that is equivalent to 20 µg/ml BHA. Gel filtration chromatographic fractions exhibiting maximum antioxidant activity were pooled and fractionated by anion exchange chromatography. The physico-chemical characterization of the active FCP fractions using SDS-PAGE, UV-Vis and FT-IR spectroscopy indicated the cleavage of peptide bonds and the formation of low molecular weight fragments with improved antioxidant properties. The chromatographic fraction with maximum antioxidant activity was further evaluated for their capability to attenuate the experimentally-induced oxidative stress and hyperlipidemia by feeding pre-heated fat and alcohol with the regular diet for 60 days. The oral intake of oxidized fatty diet with alcohol caused an exalted body weight gain, elevated levels of lipid profile (TC, TG, LDL-C and VLDL-C) and increased expression of fatty acid synthase. Likewise, induction of oxidative stress was noticed from the augmented levels of lipid peroxidation. Interestingly, FCP (100 mg/kg body weight/day) intake normalized the antioxidant enzyme activity and lipid peroxidation rate, whereas they were significantly higher in statin-treated group than normal control group. Correspondingly, FCP was found to enhance the serum levels of good cholesterol (HDL-C) and HMG Co-A reductase. Moreover, there was increased expression of LCAT in liver with low levels of TC, TG, LDL-C and VLDL-C in serum. In conclusion, the results of the present study confirmed the competency of FCP to ameliorate oxidative stress induced hyper-lipidemia.

FF PO 15

Changes in electrophoretic patterns of sarcoplasmic proteins and myofibrillar proteins in *Caranx melampygus* during chilled storage

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SDS- PAGE studies were conducted to comprehend the changes in the electrophoretic pattern of myofibrillar and sarcoplasmic proteins of *Caranx melampygus* (bluefin trevally) during chilled storage. The study revealed that the intensity of myosin bands were reduced during storage. The relative front of myosin band was decreased during storage. The relative front on initial day for myosin was 0.331 and it decreased to 0.303 on 12th day of storage. In protein profile, molecular weights of protein bands were found to be 191.8 kDa, 99.1 kDa, 52.0 kDa for myofibrillar proteins on initial day, and 200.0 kDa, 101.4 kDa, 51.5 kDa on 12th day. Molecular weights of protein bands were found to be 97.4 kDa, 60.3 kDa, 50.9 kDa, 30.4 kDa, 29.2kDa, 26.8 kDa, 25.6 kDa, 21.5 kDa for sarcoplasmic proteins on initial day and 97.4 kDa, 61.1 kDa, 52.1 kDa, 45.8 kDa, 34.6 kDa, 30.0 kDa, 26.1 kDa, 21.5 kDa on 12th day. The number of bands for sarcoplasmic proteins and myofibrillar