Electronic Supplementary Material (ESI) for Food & Function. This journal is © The Royal Society of Chemistry 2020 Sargassum fusiforme extraction with ETOH 95% Residual fraction distilled water 85°C(three times) → Residue Filtration (approximately15L) added 2% Na₂CO₃ solution (w/w) stirred for 3h at 85°C (3 times) concentrated to 3L **Filtration Total filtration** concentrated to 3L 80% ethanol precipitated overnight. **Total filtration** Subside (discarded) Supernanent 30% ethanol precipitated overnight added 4M CaCl₂, contrifuged 4800rpm Sediment Supernanent conventional drying&vacuum drying conventional drying&vacuum drying Crude algin Crude Fucoidan

(SFPs)