

Analysis of lipid composition and fatty acids in fish oil

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Abstract

Total lipids extracted from inedible portions of 5 species of the selected fish (*J. belengerii*, *L. aspera*, *S. japonicus*, *T. japonicus* and *S. melanosticta*) by Bligh-Dyer method¹⁾. Total lipids were fractionated into neutral lipid and polar lipids. Neutral lipids were separated by silic acid column chromatography²⁾ and thin layer chromatography(TLC), and quantified by TLC scanner. Fatty acid compositions were investigated by gas chromatography/mass detector. The content of total lipid of *J. belengerii*, *L. aspera*, *S. japonicus*, *T. japonicus*, *S. melanosticta* were 6.21, 19.43, 12.81, 10.20 and 10.16%, respectively, and neutral lipid content were 77.38%, 77.46%, 86.79%, 87.21% and 88.70%, respectively. The analysis results of neutral lipids by TLC scanner showed that triglycerides were the major components, while 1,3-, 1,2-diglycerides, free fatty acids, free sterols, sterol esters were of minor components. The major component of fatty acid were palmitic acid, stearic acid, eladic acid and oleic acids. Compared to red-muscles and white-muscles fish oils, red-muscle had higher amounts of unsaturated fatty acids and poly-unsaturated fatty acid than white-muscles fish oils.

References

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