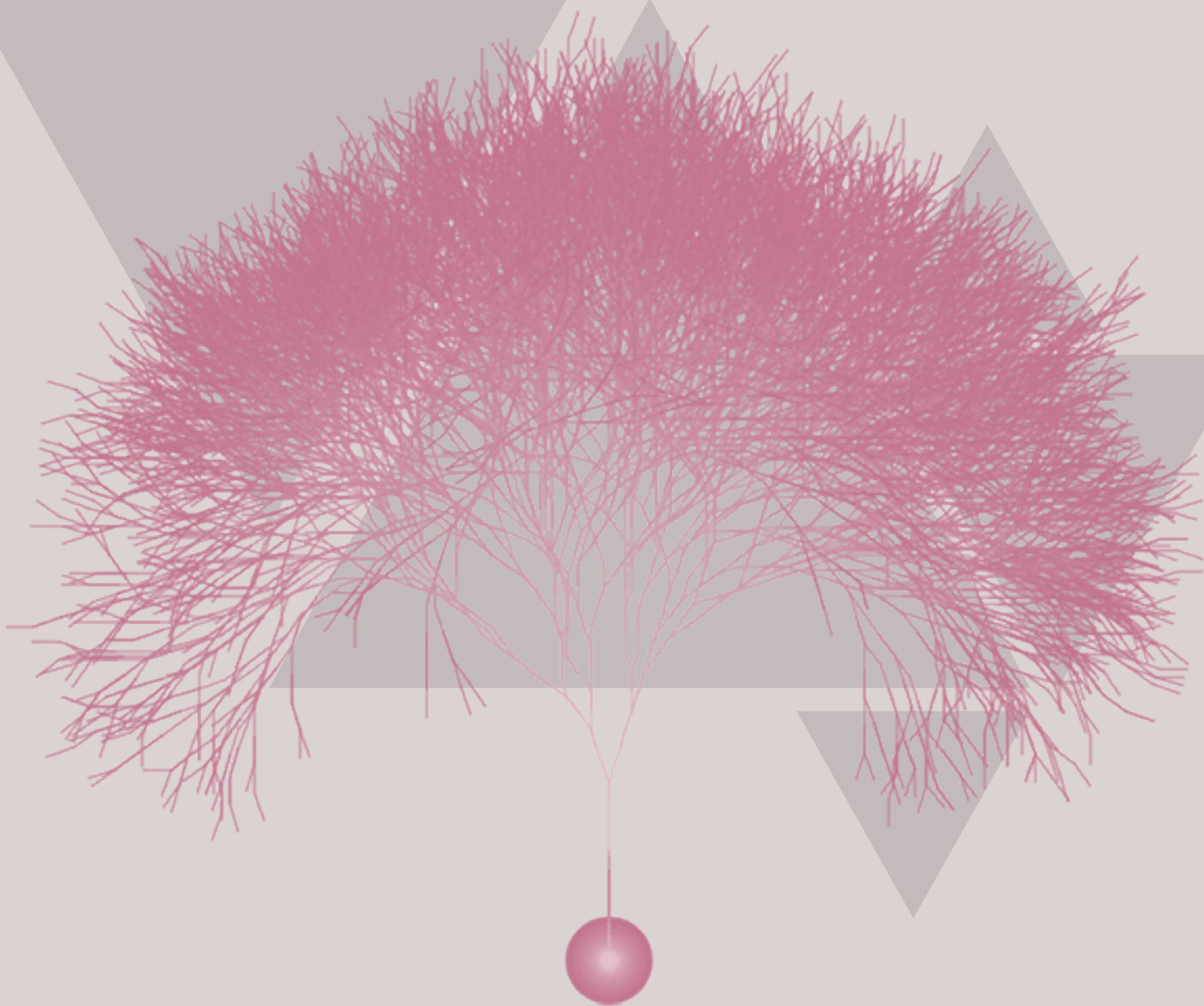


Serbian Society for Mitochondrial and Free Radical Physiology
Third Congress

REDOX MEDICINE

REACTIVE SPECIES SIGNALING, ANALYTICAL METHODS, PHYTOPHARMACY, MOLECULAR MECHANISMS OF DISEASE



Book of Abstracts
Belgrade, September 25-26, 2015.

Serbian society for mitochondrial and free-radical physiology

BOOK OF ABSTRACTS

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P64

FOOD ENRICHED WITH FISH FLOUR DECREASE n-6/n-3 RATIO IN LIVER PHOSPHOLIPIDS IN MALE WISTAR RATS

Slavica Ranković¹, Tamara Popović¹, Jasmina Debeljak Martačić¹, Mirko Tomić², Đurđica Ignjatović², Gordana Tovilović Kovačević², Marija Glibetić¹

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Dietary intake of different food influences fatty acid composition of lipid fractions, especially phospholipids as the main constituents of cell membranes. The polyunsaturated fatty acids (PUFA) intake is more and more associated with the prevention and development of chronic diseases with an inflammatory component. The liver has an important role in the synthesis and metabolism of phospholipids. Liver phospholipids build the structure of the hepatocyte membrane, take part in metabolic activities and repairing after metabolic disturbances. Our aim was to investigate the effects of food enriched with fish flour and/or food enriched with milk powder on fatty acid composition of liver lipids in rats treated for 4 weeks. Male Wistar rats were randomly assigned into three experimental groups (n=10, 375g±5). The control group received standard food (Veterinarski zavod, Subotica). Group II was fed a diet with fish flour and III received a diet with milk powder. The animals were sacrificed by decapitation and part of the liver was frozen at -80 °C. The fatty acid composition of liver phospholipids was determined by Gas Chromatography (Shimadzu GC). Our results showed that food enriched with fish flour significantly increased liver phospholipid concentrations of docosahexaenoic acid (22:6), PUFA and n-3 and decreased n-6/n-3 ratio compared to control. Food enriched with milk powder increased arachidonic acid (20:4), MUFA, PUFA, n-6 and n-6/n-3 ratio while decreased eicosapentaenoic acid (20:5), (22:6) and n-3 compared to control. Fish oil/powder is a well known antioxidant. Food enriched with fish flour is more efficient due to decrease of n-6/n-3 ratio (as a risk factor) and our future examinations will address it.