

[Polyunsaturated fatty acids: anticonvulsive effects and underlying mechanisms.]

[Article in French]

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Omega-3 and omega-6 poly-unsaturated fatty acids (PUFA) are the major families of PUFA that can be found as components of the human diet. After ingestion, both omega-3 and omega-6 PUFA are distributed to every cell in the body where they are involved in a myriad of physiological processes, including regulation of cardiovascular, immune, hormonal, metabolic, neuronal, and visual functions. At the cellular level, these effects are mediated by changes in membrane phospholipids structure, by interference with eicosanoid intracellular signaling, and by regulation of gene expression. The literature suggests the antiepileptic properties of PUFA, although these evidences emerge from basic science rather than from clinical trials. Several hypotheses have been suggested to explain the anticonvulsive effects of PUFA: modification of the membrane fluidity, direct action of PUFA on cell membrane ionic channels and/or receptors, modulation of inflammatory responses. Regarding the published clinical trials, the data are conflicting. It is currently not known whether different doses or different omega-3: omega-6 ratios would be effective. double dagger.