

Combined administration of docosahexaenoic acid and thyroid hormone synergistically enhances rat liver levels of resolvins RvD1 and RvD2

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© 2018 Supplementation with omega-3 fatty acids or thyroid hormone (T3) exhibit negative effects on inflammatory reactions in experimental animals. The aim of this work was to assess the hypothesis that docosahexaenoic acid (DHA) plus T3 co-administration enhances liver resolvin (Rv) levels as inflammation resolution mediators. Combined DHA (daily doses of 300 mg/kg for 3 consecutive days)-T3 (0.05 mg/kg at the fourth day) administration significantly increased the content of hepatic RvD1 and RvD2, without changes in that of RvE1 and RvE2, an effect that exhibits synergy when compared to the separate DHA and T3 treatments. Under these conditions, liver DHA levels increased by DHA administration were diminished when combined with T3 ($p < 0.05$), suggesting enhancement in resolvin D biosynthesis in extrahepatic tissues. It is concluded that co-administration of DHA and T3 rises the capacity of the liver for inflammation resolution by augmenting RvD1(2) availability, which represents an im