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## **Celecoxib, a COX-2 inhibitor, synergistically potentiates the anti-inflammatory activity of docosahexaenoic acid in macrophage cell line.**

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Combined treatment of DHA (50  $\mu$ M) and celecoxib (20  $\mu$ M) significantly inhibited LPS induced synthesis of NO, TNF- $\alpha$ , IL-6 and PGE2 levels in the cells, compared to the individual treatments. In addition, DHA and celecoxib diminished the COX-2 and iNOS expression in the cells. This was associated with increased PPAR $\gamma$  activity, suppressed NF- $\kappa$ B activity in the nucleus. We determined whether GW9662, a specific PPAR $\gamma$  inhibitor, could abolish the anti-inflammatory effect of DHA and celecoxib. GW9662 has abolished the DHA and celecoxib induced PPAR $\gamma$  activation, but did not alter the NF- $\kappa$ B mediated anti-inflammatory effects induced by celecoxib and DHA. Interestingly, EPA did not exhibit any inhibitory effect on these parameters.