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## ANTI-INFLAMMATORY TREATMENT APPROACHES IN MAJOR DEPRESSION

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Proinflammatory cytokines, such as IL-6, IL-1 and TNF- $\alpha$  appear to be elevated at least in the peripheral blood of depressed patients. Thus, the activity of the enzyme IDO, which is driven by pro-inflammatory cytokines and regulates the tryptophan/kynurenine metabolism may be enhanced in depressed patients through these cytokines. Although IL-6 does not directly act on IDO, its elevated levels in serum may contribute to IDO activation within the CNS by the stimulatory effect on PGE<sub>2</sub>, which acts as cofactor in the activation of IDO. This fits with a report on the correlation of increased in vitro IL-6 production with decreased tryptophan levels in depressed. Due to the increase of proinflammatory cytokines and PGE<sub>2</sub> in some psychiatric patients, antiinflammatory treatment would be expected to show advantageous effects in schizophrenic and depressed patients. Cyclo-oxygenase-2 inhibitors have been evaluated in major depression. We were able to demonstrate a statistically significant therapeutic effect of the COX-2 inhibitor on depressive symptoms in a randomized double blind pilot add-on study using the selective COX-2 inhibitor celecoxib in MD. Another randomized double-blind study in fifty depressed patients suffering from MD also showed an statistically significant better outcome of the COX-2 inhibitor celecoxib plus fluoxetine compared to fluoxetine alone. Additionally, results of the clinical study of celecoxib add-on to sertraline and the effects of this anti-inflammatory therapy approach to inflammatory markers planned by the MOODINFLAME consortium will be presented as far as available. Further on, alternative therapeutic strategies based on immunomodulatory effects will be discussed.