

P048 Dexamethasone and vitamin D3 attenuate the LPS-induced microglial activation in an IL-10-dependent manner *in vitro*.
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It has been shown that lipopolysaccharide (LPS) increases microglial activation resulting in increased production of inflammatory cytokines like IL-1 β . Here we investigated the possibility that LPS-induced changes in cultured cortical glia might be attenuated by the synthetic glucocorticoid, dexamethasone, and vitamin D3.

The data show that LPS significantly increased expression of MHCII, as assessed by OX6 mRNA, and that this was accompanied by a significant increase in IL-1 β protein, although IL-1 β mRNA was unchanged.

Treatment of cells with dexamethasone and vitamin D3 reversed the LPS-induced increases in MHCII expression and IL-1 β protein. Previous studies have indicated that the action of dexamethasone and vitamin D3 may be mediated by IL-10 and therefore we examined IL-10 mRNA and protein in cells treated with these agents. Both IL-10 mRNA and protein were significantly increased by dexamethasone and vitamin D3. We also report that, like dexamethasone and vitamin D3, IL-10 inhibited the LPS-induced increase in IL-1 β concentration.

The data are therefore consistent with the hypothesis that dexamethasone and vitamin D3 increase IL-10 production and that this is the key to the anti-inflammatory effect of these agents.