

# The endocannabinoid system: an emerging key player in inflammation

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## Abstract Author Information

**Purpose of review** The purpose of this review is to illustrate the expanding view of the endocannabinoid system (ECS) in relation to its roles in inflammation.

**Recent findings** According to the formal classification, the ECS consists of two cannabinoid receptors, their endogenous fatty acid-derived ligands, and a number of enzymes involved in their synthesis and breakdown. However, many endogenous congeners of classical endocannabinoids have now been discovered, together with a set of receptors structurally or functionally related to the cannabinoid receptors. Endocannabinoids *per se* behave ‘promiscuously’ with regard to their receptor interactions. It is increasingly recognized how tightly this expanded ECS is intertwined with key processes involved in inflammation. A continuous dynamic exchange of substrates and metabolites exists between ECS and eicosanoid pathways. Endocannabinoids can also be oxygenated by cyclooxygenase and other enzymes to biologically active ‘hybrid’ structures. Diet is among the main factors determining synthesis and release of endocannabinoids and related mediators.

**Summary** The complexity of what may be called the ‘endocannabinoidome’ requires approaches that take into account its dynamics and interconnections with other regulatory systems. This endocannabinoidome continues to offer possibilities for prevention and intervention, but multiple target approaches will probably provide the only keys to success.

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