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Interleukins in inflammation

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Figuring out the roles of individual cytokines can be complicated by the fact that they may share common functional subunits. Interleukin-12 (IL-12) is a heterodimer of p35 and p40 subunits, and is thought to play a key role in T-cell-dependent immunity and inflammation. In the February 13 *Nature* Cua *et al.* report that IL-23, a heterodimer of the IL-12 p40 subunit together with a distinct p19 subunit, is perhaps a more important factor in autoimmune inflammation (*Nature* 2003, **421**:744-748). They used knockout mice, and cytokine replacement studies, to address the role of the p19, p35 or p40 subunits in experimental autoimmune encephalomyelitis (EAE), an inflammatory disease model. IL-23, but not IL-12, was essential for the development of EAE. IL-23 appears to directly activate macrophages *in vivo*, thereby inducing cytokine expression and late-stage inflammation.

References

1. Interleukin-12 and the regulation of innate resistance and adaptive immunity.
2. *Nature*, [<http://www.nature.com>]