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Microglia: a sensor for pathological events in the CNS

Georg W Kreutzberg

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Abstract

The most characteristic feature of microglial cells is their rapid activation in response to even minor pathological changes in the CNS. Microglia activation is a key factor in the defence of the neural parenchyma against infectious diseases, inflammation, trauma, ischaemia, brain tumours and neurodegeneration. Microglia activation occurs as a graded response *in vivo*. The transformation of microglia into potentially cytotoxic cells is under strict control and occurs mainly in response to neuronal or terminal degeneration, or both. Activated microglia are mainly scavenger cells but also perform various other functions in tissue repair and neural regeneration. They form a network of immune alert resident macrophages with a capacity for immune surveillance and control. Activated microglia can destroy invading micro-organisms, remove potentially deleterious debris, promote tissue repair by secreting growth factors and thus facilitate the return to

repair by secreting growth factors and thus facilitate the return to tissue homeostasis. An understanding of intercellular signalling pathways for microglia proliferation and activation could form a rational basis for targeted intervention on glial reactions to injuries in the CNS. *Trends Neurosci.* (1996) 19, 312–318



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Microglia: a sensor for pathological events in the CNS, joining the

organic matter mezzo forte is a picturesque world.

role of macrophage/microglia and astrocytes in the pathogenesis of three neurologic disorders: HIV-associated dementia, Alzheimer disease, and multiple sclerosis, innate intuition builds a normal channel.

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