

# Necrosis

Necrosis (from the Greek νέκρωσις “death, the stage of dying, the act of killing” from νεκρός “dead”) is a form of cell injury that results in the premature death of cells in living tissue by autolysis.

Necrosis is caused by factors external to the cell or tissue, such as infection, toxins, or trauma that result in the unregulated digestion of cell components.

see [Radiation induced necrosis](#).

In contrast, apoptosis is a naturally occurring programmed and targeted cause of cellular death. While apoptosis often provides beneficial effects to the organism, necrosis is almost always detrimental and can be fatal.

Necrosis is associated with complement activation in [medulloblastoma](#). Medulloblastoma cells express C3aR, and siRNA-mediated knockdown of C3aR inhibits proliferation of these cells in vitro <sup>1)</sup>.

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[Gliomas](#) may have cystic central [necrosis](#), but may also have an associated [cyst](#) even without necrosis. When fluid from these cysts is aspirated it can be differentiated from [CSF](#) by the fact that it is usually xanthochromic and often clots once removed from the body (unlike e.g. fluid from a chronic subdural). Although they may occur with malignant gliomas, cysts are more commonly associated with [pilocytic astrocytomas](#) .

1)

Maurer AJ, Bonney PA, Toho LC, Glenn CA, Agarwal S, Battiste JD, Fung KM, Sughrue ME. Tumor necrosis-initiated complement activation stimulates proliferation of medulloblastoma cells. *Inflamm Res*. 2015 Jan 22. [Epub ahead of print] PubMed PMID: 25603857.

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