

# Chemotherapy

see also [Intraventricular chemotherapy](#).

Often abbreviated to chemo and sometimes CTX or CTx is a category of cancer treatment that uses chemical substances, especially one or more anti-cancer drugs (chemotherapeutic agents) that are given as part of a standardized chemotherapy regimen.

Chemotherapy may be given with a curative intent, or it may aim to prolong life or to reduce symptoms (palliative chemotherapy). Along with hormonal therapy and targeted therapy, it is one of the major categories of medical oncology (pharmacotherapy for cancer). These modalities are often used in conjunction with other cancer treatments, such as radiation therapy, surgery, and/or hyperthermia therapy.

Chemotherapy is an adjuvant treatment for glioblastomas, however, chemotherapy remains palliative because of the development of multidrug resistance (MDR).

see [MDR glioblastoma cell line](#)

Following prolonged chemotherapy, [MDR protein 1](#) (MDR1) and [CD133](#) increase in [recurrent glioblastomas](#). CD133 positive (CD133+) glioma cancer stem-like cells (GCSCs) markedly promote drug resistance and exhibit increased DNA damage repair capability; thus they have a key role in determining tumor chemosensitivity.

[Melphalan](#) (trade name Alkeran, in former USSR also known as Sarcolysin) is a [chemotherapy](#) drug belonging to the class of nitrogen mustard [alkylating agents](#).

## Blood-brain barrier and chemotherapy agents

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