

Losartan

Losartan, sold under the brand name Cozaar among others, is a medication used to treat [arterial hypertension](#).

It is in the [angiotensin receptor blocker](#) (ARB) family of [medication](#) and is considered protective of the kidneys.

Besides hypertension, it is also used in diabetic kidney disease, heart failure, and left ventricular enlargement.

It comes as a tablet that is taken by mouth.

It may be used alone or in addition to other blood pressure medication.

Up to six weeks may be required for the full effects to occur.

In neurosurgery

- [Correction: Wanderer et al. The Role of Losartan as a Potential Neuroregenerative Pharmacological Agent after Aneurysmal Subarachnoid Haemorrhage. Int. J. Mol. Sci. 2020, 21, 6496](#)
- [Anti-tumor effects of telmisartan in glioma-astrocyte non-contact co-cultures: A critical role of astrocytic IL-6-mediated paracrine growth promotion](#)
- [Losartan May Not Prevent Vestibular Schwannoma Growth or Related Hearing Loss During Observation](#)
- [Frequency-coded patterns of sympathetic vasomotor activity are differentially evoked by the paraventricular nucleus of the hypothalamus in the Goldblatt hypertension model](#)
- [Telmisartan inhibits microglia-induced neurotoxic A1 astrocyte conversion via PPAR \$\gamma\$ -mediated NF- \$\kappa\$ B/p65 degradation](#)
- [The Effect of Losartan on Neuroinflammation as Well as on Endothelin-1- and Serotonin-Induced Vasoconstriction in a Double-Haemorrhage Rat Model](#)
- [Angiotensin-receptor blocker losartan alleviates atrial fibrillation in rats by downregulating frizzled 8 and inhibiting the activation of WNT-5A pathway](#)
- [SARS-CoV-2 triggers pericyte-mediated cerebral capillary constriction](#)

It was reported in a retrospective series that [angiotensin receptor blockers](#) might be associated with reduced [peritumoral edema](#). The ASTER study is a randomized, placebo-controlled trial to assess whether or not the addition of [Losartan](#) to standard of care (SOC) can reduce [steroid](#) requirement during [radiotherapy](#) (RT) in patients with newly diagnosed [Glioblastoma](#).

Patients with a histologically confirmed Glioblastoma after [biopsy](#) or partial surgical [resection](#) were randomised between Losartan or placebo in addition to SOC with RT and [temozolomide](#) (TMZ). The primary objective was to investigate the steroid dosage required to control [brain edema](#) on the last day of RT in each arm. The secondary [outcomes](#) were steroids dosage 1 month after the end of RT, assessment of cerebral oedema on [magnetic resonance imaging](#), tolerance and survival.

Seventy-five patients were randomly assigned to receive Losartan (37 patients) or [placebo](#) (38 patients). No difference in the steroid dosage required to control [brain edema](#) on the last day of RT, or one month after completion of RT, was seen between both arms. The [incidence](#) of [adverse events](#) was similar in both arms. Median [overall survival](#) was similar in both arms.

Losartan, although well tolerated, does not reduce the steroid requirement in newly diagnosed Glioblastoma patients treated with concomitant RT and TMZ. Trial registration number NCT01805453 with ClinicalTrials.gov ¹⁾.

Blocks brain TGF- β signaling and prevents epilepsy in the albumin or blood-brain barrier breakdown models of epileptogenesis ²⁾.

¹⁾

Ursu R, Thomas L, Psimaras D, Chinot O, Le Rhun E, Ricard D, Charissoux M, Cuzzubbo S, Sejalon F, Quillien V, Hoang-Xuan K, Ducray F, Portal JJ, Tibi A, Mandonnet E, Levy-Piedbois C, Vicaut E, Carpentier AF. Angiotensin II receptor blockers, steroids and radiotherapy in glioblastoma-a randomised multicentre trial (ASTER trial). An ANOCEF study. Eur J Cancer. 2019 Feb 1;109:129-136. doi: 10.1016/j.ejca.2018.12.025. [Epub ahead of print] PubMed PMID: 30716716.

²⁾

Welling LC, Rabelo NN, Gonçalves de Sena Barbosa M, Luciano LL, Figueiredo EG. Losartan and Traumatic Brain Injury: Why Is a Retrospective Study Urgent? World Neurosurg. 2021 Oct;154:167-168. doi: 10.1016/j.wneu.2021.07.095. PMID: 34583471.

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