

Ekspresi AgNOR pada sel neuron korteks serebrum tikus pascahipoksia dengan pemberian ekstrak etanol akar *acalypha indica* dan herba *centella asiatica* = AgNOR expression in neuron cells of cerebral cortex post-hypoxia rat that given ethanol extract from *acalypha indica* root and *centella asiatica*

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Abstrak

Hipoksia merupakan kondisi inadekuat suplai oksigen menyebabkan peningkatan radikal bebas merusak organ, contohnya otak. Radikal bebas dinetralisir antioksidan endogen dan eksogen. *Acalypha indica* dan *Centella asiatica* memiliki efek antioksidan. Pewarnaan AgNOR mengukur derajat kerusakan sel. Penelitian bertujuan membuktikan efek pemberian kombinasi ekstrak etanol akar *Acalypha indica* dan *Centella asiatica* pada histopatologi neuron korteks serebrum tikus pascahipoksia pewarnaan AgNOR. Penelitian mendapat sediaan dari 26 ekor tikus Spraque-Dawley, terbagi dalam 6 kelompok: kontrol normal; kontrol negatif (hipoksia+aquades); hipoksia+kombinasi 1; hipoksia+kombinasi 2; hipoksia+tunggal 2; kontrol positif (hipoksia+vit C). Induksi hipoksia selama 7 hari dengan mengalirkan O₂ 10% dan N₂ 90% bertekanan 1 atm. Setelah 7 hari, dilakukan Analisis Gas Darah, reoksigenasi 1 jam, dilanjutkan pemberian perlakuan aquades; (AI200+CA150); (AI250+CA100); CA150 dan vitamin C selama 7 hari. Pada akhir studi dilakukan euthanasia, organ otak diambil untuk pemeriksaan histopatologi dengan pewarnaan AgNOR. Hasil: Pemberian ekstrak kombinasi 2, tunggal 2, dan kombinasi 1 berbeda bermakna dibandingkan kontrol negatif ($p=0,000$; $p=0,005$; $p=0,023$). Kesimpulan: Kombinasi ekstrak etanol (AI250+CA100) memiliki efek terbaik untuk mengurangi kerusakan neuron korteks serebrum secara histopatologi.

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Hypoxia is inadequate conditions of oxygen causes increasing free radicals destroying organs, e.g. brain. Free radicals neutralized by endogenous and exogenous antioxidants. *Acalypha indica* and *Centella asiatica* have antioxidant effects. AgNOR staining measures degree of damaged cell. The aim of this study was to prove the effect of the combination of ethanol extract on the roots of *Acalypha indica* and *Centella asiatica* on the histopathology of cortical neurons in cerebrum of rats after hypoxia in AgNOR staining. The study of 26 Spraque-Dawley rats, divided into 6 groups: normal control; negative control (hypoxia + aquades); hypoxia + combination 1; hypoxia + combination 2; hypoxia + single 2; positive control (hypoxia + vit C). Induction of hypoxia for 7 days by flowing 10% O₂ and 90% N₂ with 1 atm pressure. After 7 days, Blood Gas Analysis, 1 hour re-oxygenation, followed by treatments; distilled water; (AI200 + CA150); (AI250 + CA100); CA150 and vitamin C for 7 days. At the end of study, euthanasia was carried out, brain organs were taken for histopathology examination with AgNOR staining. The combination 2, single 2 and combination 1 extracts were significantly different compared to negative control ($p = 0,000$; $p = 0.005$; $p = 0.023$). The combination of ethanol extract (AI250 + CA100) has the best effect to reduce damage to cerebral cortical neurons histopathologically.