

10 週齢の脳卒中易発症ラット大脳中における NADPH 酸化酵素 3 の高い発現レベル

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High Expression levels of NADPH Oxidase 3 in the Cerebrum of Ten-week-old Stroke-Prone Spontaneously Hypertensive Rats

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ABSTRACT: We previously demonstrated that the high levels of oxidative stress in the brains of ten-week-old stroke-prone hypertensive rats (SHRSP) were attributable to intrinsic, not extrinsic factors (*Biol. Pharm. Bull.*, 33, 2010, Michihara et al.). The aim of the present study was to determine whether increases in the enzymes producing reactive oxygen species (ROS), reductions in the enzymes and proteins removing ROS, or increases in an enzyme and transporter removing antioxidants promoted oxidative stress in the SHRSP cerebrum. No significant decreases were observed in the mRNA levels of enzymes that remove ROS between SHRSP and normotensive Wistar Kyoto rats. The activity of reduced nicotinamide adenine dinucleotide phosphate (NADPH) oxidase (NOX) and the protein and mRNA levels of NOX3, an enzyme that produces ROS, were significantly increased in the SHRSP cerebrum. These results suggested that the high expression levels of NOX3 increased oxidative stress in the SHRSP cerebrum.

抄録 本研究において我々は、NADPH 酸化酵素 3 の高い発現レベルの影響により、脳卒中易発症ラット大脳において酸化ストレスの増加を引き起こす可能性を示した。