

[Biochem. Pharmacol., 35, 341 (1986)]

Effect of Superoxide Dismutase on Glomerular Nephritis.

TETSUO ADACHI, MAKOTO FUKUTA, YOSHIMASA ITO, KAZUYUKI HIRANO*,
MAMORU SUGIURA, KATSUHITO SUGIURA

The antiinflammatory effect of superoxide dismutase (SOD) was studied in rats with kidney intoxication induced by the injection of nephrotoxic serum (NTS). The urinary excretion of protein was increased by the i. v. injection of NTS. The daily injection of SOD significantly suppressed the increase in urinary excretion of protein. The injection of NTS increased the renal malondialdehyde (MDA) level by 3-fold compared to control rats. The daily injection of SOD also significantly suppressed the renal MDA level. From these results, we propose that SOD which is a scavenger of superoxide anion, inhibits lipid peroxidation in the kidney induced by active oxygen, and thus protects the renal cells from the damage induced by the injection of NTS.

[Jap. J. Dermatology, 96, 165 (1986)]

Studies on Superoxide Dismutase in Human Skin (3). Contents of Superoxide Dismutase and Lipid Peroxide in Skin of Patients with Atopic Dermatitis.

KATSUHITO SUGIURA, YOSHIKI IIDA, HISASHI OHGOSHI, HIROSHI UEDA,
KAZUYUKI HIRANO*, TETSUO ADACHI

Cu, Zn-superoxide dismutase (Cu, Zn-SOD) and Mn-superoxide dismutase (Mn-SOD) concentrations in skin of patients with atopic dermatitis were determined by the enzyme immunoassays. Cu, Zn-SOD, Mn-SOD and lipid peroxide contents in exposure skin site were higher than in unexposure skin site. Mn-SOD and lipid peroxide contents in skin of patients with atopic dermatitis were higher than in normal skin. But Cu, Zn-SOD level in skin of patients with atopic dermatitis was not significantly different from normal skin.

[Jap. J. Dermatology, 96, 171 (1986)]

Studies on Superoxide Dismutase in Human Skin (4). Contents of Superoxide Dismutase and Lipid Peroxide in Keloid, Hypertrophic Scar and Scar.

KATSUHITO SUGIURA, MAKOTO ABE, HIROSHI INASAKA, HIROSHI UEDA,
KAZUYUKI HIRANO*, TETSUO ADACHI

Cu, Zn-superoxide dismutase (Cu, Zn-SOD) and Mn-superoxide dismutase (Mn-SOD) concentrations in skin of site of keloid, hypertrophic scar and scar were determined by the enzyme immunoassays. Cu, Zn-SOD content in skin of scar site was higher than in normal site. Cu, Zn-SOD and Mn-SOD contents in skin of keloid site were lower than in normal site, but both SODs contents in skin of hypertrophic scar were not significantly different from normal site. From these results, it was assumed that the assays of SODs contents in skin were useful for the clinical diagnosis of keloid and scar.