Serum protein relative percentages for mice exposed to parallel (E_{II}) and perpendicular ($E_{\perp}$) electrostatic fields

Electrostatic field (volts/m)	Albumin	α	β	γ
7 Days				
$E_{II} = 2.7 \times 10^3$	65.3 ± 1.7	10.0 ± 2.3	18.5 ± 1.2	6.2 ± 0.7
$E_{II} = 10.7 \times 10^3$	59.1 ± 5.3	11.4 ± 2.0	22.0 ± 2.0 [a]	6.9 ± 1.4
$E_{\perp} = 5.7 \times 10^3$	62.2 ± 2.3	12.1 ± 1.0	17.3 ± 0.8	8.5 ± 1.0 [a]
Control	63.9 ± 3.8	12.6 ± 0.6	17.6 ± 0.6	6.0 ± 1.0
14 Days				
Electrostatic field (volts/m)	Albumin	α	β	γ
$E_{II} = 2.7 \times 10^3$	58.6 ± 3.4	14.0 ± 2.5	20.3 ± 2.3	7.7 ± 1.3
$E_{II} = 10.7 \times 10^3$	56.2 ± 2.6	13.9 ± 1.4	22.7 ± 1.4 [a]	7.2 ± 1.4
$E_{\perp} = 5.7 \times 10^3$	57.9 ± 3.3	16.0 ± 1.2	20.7 ± 1.8	5.3 ± 1.4
Control	56.3 ± 4.0	17.4 ± 3.9	19.8 ± 1.8	6.3 ± 2.0
21 Days				
Electrostatic field (volts/m)	Albumin	α	β	γ
$E_{II} = 2.7 \times 10^3$	57.7 ± 2.0	13.3 ± 1.0	23.3 ± 1.1 [a]	6.0 ± 1.2
$E_{II} = 10.7 \times 10^3$	54.6 ± 2.8 [a]	15.0 ± 1.4	24.1 ± 1.0 [a]	6.4 ± 1.5
$E_{\perp} = 5.7 \times 10^3$	61.8 ± 1.5 [a]	13.1 ± 0.6	19.0 ± 1.4 [a]	5.9 ± 0.7
Control	58.6 ± 1.5	13.4 ± 1.2	21.6 ± 1.1	6.2 ± 1.5

[a] $P < 0.05$ for a two-tailed t-test.

Résumé. Chez des souris ayant été exposée sur tout leurs corps aux champs électrostatiques parallèles à la surface de la terre, le pourcentage relatif des β-protéines de leur sérum s'élève. Nos calculs montrent que l'énergie délivrée par ces champs est négligeable. Son effet sur les β-protéines ne paraît donc pas être le résultat d'un transfer d'énergie, mais plutôt un effet informationnel.

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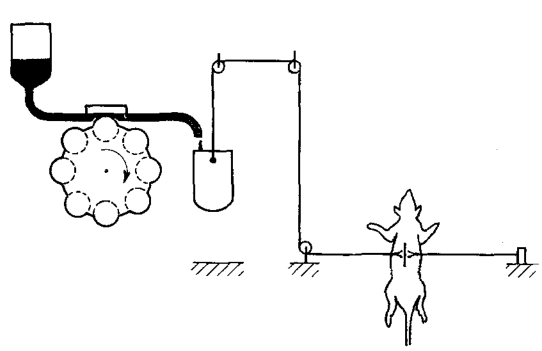
Stimulation of Wound Healing with Laser Beam in the Rat

In the preceding works it was demonstrated that the healing of surgical wounds induced in laboratory animals was enhanced by laser irradiation[1,2]. The promoting effect of laser beam on wound healing has been confirmed in the clinics: so far 26 cases of clinical healing have been reported[3]. The wounds healed by laser beam had previously failed to respond to usually applied methods, included plastic surgery. The aim of the present experiment was to study the effect of laser beam on wound healing by the simple method of determining tensile strength (TS).



Simple tensiometer for laser beam measurement.

Sprague-Dawley (CFY) male rats of 150 + 10 g were used. Depilation along the dorso-lumbar region was performed with an electric clipper and depilatory cream. A slit (2.5 cm long) was cut into the skin of the central line, whereafter the edges of the wound were closed with 2 Michel wound clips. The wound surface of 1 cm length between the two clips was exposed to laser beam twice for 3 min, daily. The source of radiation was an He-Ne gas-laser (Hungarian Optical Works, 5 mW energy output power). For the time of irradiation, the animals were anaesthetized with nembutal (40 mg/kg, i.p.), the controls being given similar treatment. The first dose of laser beam was timed for 4 h after incision of the wound. 3, 5, 8 and 12 days after having been wounded, respective groups of

[1] E. MESTER, T. SPIRY, B. SZENDE and J. G. TOTA, Am. J. Surg. *122*, 532 (1971).
[2] E. MESTER, B. SZENDE, T. SPIRY and A. SCHER, Acta chir. hung. *13*, 315 (1972).
[3] E. MESTER, E. BÁCSY, A. KORÉNYI-BOTH, I. KOVÁCS and T. SPIRY, Arch. klin. Chir., Suppl. Chir. Forum (1974), p. 261.