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IN VITRO ^{14}C-GLYCINE INCORPORATION INTO PROTEINS OF DENERVATED RAT MUSCLE, EFFECT OF NANDROLONE-DECANOATE

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In vitro incorporation of ^{14}C-glycine into protein was studied in incubations of 1 ml 15 000 x g supernatant (SN) of rat gastrocnemius and extens.digit.long.muscle homogenates (200 mg per ml medium, consisting of 0.25 M sucrose, 0.08 M KCl, 0.01 M $MgCl_2$ and 0.05 M tris-HCl buffer pH 7.6). ^{14}C-glycine (0.053 μmol = 2μc), 2 μmol ATP, 0.6 μmol GTP, 6 μmol phosphoenolpyruvate and 25 U pyruvic kinase were added (total volume = 2 ml).

Groups of rats were denervated (sciatic nerve), or sham operated (controls) 4 weeks prior to incubations. Incorporation of ^{14}C-glycine was increased ($p < 0.0005$) in denervated muscle: 22.7 $\pm$ 1.2 cpm/mg protein (mean of 4 experiments with 3—5 incubations each $\pm$ S.E.) against controls (11.2 $\pm$ 0.04 cpm/mg protein). In an attempt to determine whether increased ^{14}C-glycine was due to factor(s) of soluble or microsomal cell fraction "criss-cross" incubations of denervated or sham operated 105 000 x g SN and microsomes were performed ($\bar{x} \pm$ S.E.): microsomes (denerv.) + sol.cell fraction (denerv.) = 46.0 $\pm$ 7.5; micr.(sham op.) + sol.cell fx.(den.) = 29.6 $\pm$ 4.3; micr.(den.) + sol.cell fx.(sham op.) = 25.4 $\pm$ 3.8; and micr.(sham op.) + sol.cell fx.(sham op.) = 19.8 $\pm$ 1.3 cpm/mg protein. Stimulation of ^{14}C-glycine incorporation appears to be due to the soluble cell fraction of denervated muscle rather than to denervated muscle microsomes, although some stimulation against control microsomes in incubations with sham operated muscle soluble cell fraction is apparent. Conceivably stimulatory material of soluble cell fraction was not completely removed upon preparation of microsomes.

No effect on ^{14}C-glycine incorporation was obtained when normal rats were treated for 4 weeks with nandrolone-decanoate (10 mg/kg, once weekly): treated rats = 13.1 $\pm$ 0.8, placebo = 12.5 $\pm$ 0.3 cpm/mg protein (4 experiments with 4 incubations each). This treatment produced slight, but so far (4 experiments) insignificant reduction of elevated ^{14}C-glycine incorporation of denervated rat muscle (33.8 $\pm$ 2.8) against control (35.6 $\pm$ 5.0 cpm/mg protein).

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