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INHIBITION OF ANTIBODY FORMATION BY TETRACYCLINE ON THE CELLULAR LEVEL

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INHIBITION OF THE PRIMARY IMMUNE RESPONSE. Noninbred mice were immunized with o.1 ml of a 3% sheep erythrocyte suspension into each hind foot pad. During the first 48 hrs tetracycline (TC) (Syntetrin-Rolitetracyklin Bristol) was administered by the same route in 3 doses (15 mg per animal). At day 3, 4, 5, 6 & 7 lymphatic cells were separated from excised regional lymph nodes & the proportion of antibody-forming cells was determined by the hemolytic plaque test. In TC-treated animals the number of antibody-forming cells was markedly reduced. INHIBITION OF THE SECONDARY IMMUNE RESPONSE. Secondary immunization was performed 3 weeks after the primary stimulus with a o.5% erythrocyte suspension (o.1ml per foot pad). A significant reduction of plaques after TC-treatment (15mg per animal) was attained especially in cells producing IgM-type antibodies. EXPERIMENTS IN VITRO. Rabbits were immunized in like manner with phage T2 (10^{10}PFU per o.5ml per foot pad). Six months after the primary stimulus fragment cultures of regional lymph nodes & of bone marrow were established. A secondary phage T2 stimulus was then applied (10^{8}PFU per 1 ml of medium). Neutralizing antibody levels were determined at 24 hrs, & at 5, 9 & 15 days of cultivation in vitro. Neutralizing antibody formation was significantly inhibited after TC-treatment of the fragment cultures (1mg per ml of medium).