

## **Delated Type Hypersensitivity Theilerin Test in Cattle Vaccinated against *Theileria annualata* infection**

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Theileriosis due to *Theileria annualata* is a disease causing drastic losses of cattle in Iran. Fortunately, an effective vaccine has been produced since 1973 for pure-bred and cross-bred cattle, which are highly at risk. Although the results clearly indicated that cell-mediated immune responses against *T.annualata* are important, there is not yet an accurate and quick test, neither *in vitro* nor *in vivo* for checking protective immunity in vaccinated cattle. Since the determination of specific delayed hypersensitivity responses continue to be the most efficient clinical and epidemiological tools for the study of other pathogenic protozoa like *Leishmania* it is worthwhile to evaluate the effectiveness of delayed hypersensitivity theilrtin test on *T.annualata* infection.

Theilerin was prepared and its total nitrogen was determined at level of 1mg/ml. 72 Holstein Friesian cattle recovered from acute theileriosis or vaccinated received 0.1ml of theilerin intradermally at normal concentration of total nitrogen or other dilutions (1/10 and 1/100). Some 60% of calves and 66.67% of milking cows receiving normal theilerin showed more than 1mm increase in skin thickness at the site of inoculation (mean value of 1.86mm for calves and 3.46mm for milking cows). The pathological examination of the inoculation site showed infiltration of lymphocytes. No changes of general condition were observed in animals under study. The result indicated that the test is positive and could be used for checking immunity in vaccinated animals.

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