

## عنوان مقاله:

A new sperm agglutinin factor from marine snail *Telescopium telescopium*: An evaluation with goat (*Capra hircus*) cauda epididymal spermatozoa

## محل انتشار:

مجله طب تولید مثل ایران، دوره 8، شماره 1 (سال: 1389)

تعداد صفحات اصل مقاله: 8

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## خلاصه مقاله:

Background: Lectins, the multivalent carbohydrate binding proteins are also employed to ascertain differentiation and characterization of the specific cell surface carbohydrate ligands/ receptors of different cell types including spermatozoa and possess novel biomedical importance. Objective: SF50, the sialic acid specific lectin, was employed on goat cauda epididymal spermatozoa to investigate its effect(s) on the physiology of sperm cells if any. Materials and Methods: A protein factor, SF50 was obtained from spermatheca/ ovotestis gland of marine snail *Telescopium telescopium* by precipitation with 50% ammonium sulfate. Different concentrations of SF50 and Bovine serum albumin (BSA) as control were added with washed goat cauda epididymal spermatozoa and observed immediately and after 20 s and 60 s of incubation. Results: SF50 treated sperm cells exhibited head-to-head type agglutination. The degree of agglutination varied ( $p < 0.001$ ) with the concentration of SF50 used. Agglutinability of spermatozoa were significantly higher ( $p < 0.001$ ) with higher concentration of SF50 as well as incubation period had significant influence ( $p < 0.001$ ) on the number of agglutinated spermatozoa. Agglutination and immobilization of spermatozoa occurred instantly with higher doses of SF50 than of lower doses. Spermatozoan immobilization was irreversible. Conclusion: Experiment demonstrates sperm surface components altered when the cells were incubated with SF50 and their plasma membrane is heterogeneous in nature. Therefore, it could be that, SF50 binding protein(s) plausibly remain in the acrosomal region. This observation may prove useful to correlate changes in the sperm surface during their various biological events, moreover, SF50 as sperm surface biomarker and as local barrier contraceptive could be thought off.

## کلمات کلیدی:

Agglutination, Lectin, Snail, Sperm

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