

Journal of Andrology, Vol 3, Issue 6 365-372, Copyright © 1982 by [The American Society of Andrology](#)

Evidence for a Role of Post-Ovulatory Cumulus Components in Supporting Fertilizing Ability of Hamster Spermatozoa

BARRY D. BAVISTER¹

¹ *Wisconsin Regional Primate Research Center, University of Wisconsin, Madison, Wisconsin*

A completely chemically defined culture medium was used to investigate the role of egg-cumulus complex (ECC) components in supporting sperm fertilizing ability. Defined sperm motility-stimulating factors (hypotaurine and epinephrine), with polyvinylalcohol as the macromolecular component, were included in the defined medium. Freshly-ovulated hamster ECCs were incubated with washed epididymal spermatozoa under different conditions designed to evaluate the ability of ECC components to support sperm capacitation, acrosome reactions, and the ability to penetrate the ova. The major conclusions from the data are that ECC components are capable of supporting these physiologic events, and that these components are present in the soluble (fluid) compartment of the ECC. This work is the first in a series of steps aimed at the localization, characterization, and eventual identification of the natural acrosome reaction-inducing stimulus associated with the ECC.

Key words: fertilization *in vitro*, capacitation, acrosome reaction, egg-cumulus complex, golden hamster

Accepted on July 26, 1982

This article has been cited by other articles:



HUMAN REPRODUCTION

[HOME](#)

B.D. Bavister, D.L. Kinsey, M. Lane, and D.K. Gardner
Recombinant human albumin supports hamster in-vitro fertilization
Hum. Reprod., January 1, 2003; 18(1): 113 - 116.

[\[Abstract\]](#) [\[Full Text\]](#) [\[PDF\]](#)



BIOLOGY of REPRODUCTION

[HOME](#)

Y.-H. Choi and Y. Toyoda
Cyclodextrin Removes Cholesterol from Mouse Sperm and Induces
Capacitation in a Protein-Free Medium
Biol Reprod, December 1, 1998; 59(6): 1328 - 1333.

[\[Abstract\]](#) [\[Full Text\]](#)

This Article

- ▶ [Full Text \(PDF\)](#)
- ▶ [Alert me when this article is cited](#)
- ▶ [Alert me if a correction is posted](#)

Services

- ▶ [Similar articles in this journal](#)
- ▶ [Alert me to new issues of the journal](#)
- ▶ [Download to citation manager](#)

Citing Articles

- ▶ [Citing Articles via HighWire](#)
- ▶ [Citing Articles via Google Scholar](#)

Google Scholar

- ▶ [Articles by BAVISTER, B. D.](#)
- ▶ [Search for Related Content](#)

PubMed

- ▶ [Articles by BAVISTER, B. D.](#)



S.-H. Oh, K. Miyoshi,, and H. Funahashi

Rat Oocytes Fertilized in Modified Rat 1-Cell Embryo Culture Medium Containing a High Sodium Chloride Concentration and Bovine Serum Albumin Maintain Developmental Ability to the Blastocyst Stage

Biol Reprod, October 1, 1998; 59(4): 884 - 889.

[\[Abstract\]](#) [\[Full Text\]](#)

[HOME](#) [HELP](#) [FEEDBACK](#) [SUBSCRIPTIONS](#) [ARCHIVE](#) [SEARCH](#) [TABLE OF CONTENTS](#)

[Copyright © 1982 by The American Society of Andrology.](#)