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JOURNAL ARTICLE

Structure and control of a cell-cell adhesion complex associated with spermiation in rat seminiferous epithelium

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Spermiation, the release of late spermatids from the Sertoli cell, is disrupted by a number of toxicants. Control of the spermiation process, and the proteins that interact to adhere mature spermatids to Sertoli cells, is poorly understood. In these studies we used immunohistochemistry, coimmunoprecipitation/Western blotting, and mass spectrometry to refine an earlier model of sperm adhesion proposed by our laboratory. We have identified specific proteins linked together as part of a multiprotein complex, as well as several additional proteins (cortactin, ERK1/2, and 14-3-3 zeta) that may be functioning in both structural and signal transduction roles. The current and prior data suggest that protein phosphorylation is central to the control of spermiation. We also present and characterize an in vitro tubule culture system that allowed functional testing of the spermiation model by pharmacologic manipulation, and yielded data consistent with the importance of protein phosphorylation in spermiation.

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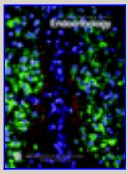
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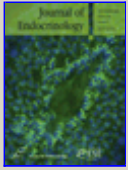
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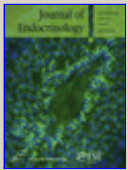
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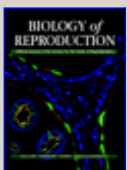
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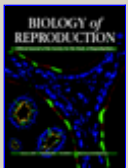


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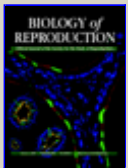
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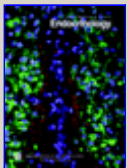
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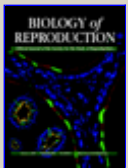
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