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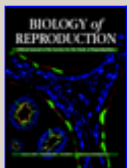
## JOURNAL ARTICLE

# In vitro interactions of calmodulin with the ovine proacrosin-acrosin system

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The authors studied the interaction of calmodulin (CaM) with proacrosin and acrosin from ram spermatozoa. CaM binding evaluated by the [<sup>125</sup>I]-CaM overlay procedure was shown to occur preferentially with both proacrosin and acrosin in the presence of EGTA; in the presence of Ca<sup>2+</sup>, the interaction was less intense. Further studies with native proenzyme preparations showed that proacrosin activation at pH 7.1 or 8.0 was significantly accelerated in the presence of CaM and EGTA (t<sub>1/2</sub> = 23 min vs. 55 min for EGTA alone at pH 7.1), but not in the presence of Ca<sup>2+</sup> (t<sub>1/2</sub> = 73 min). The enzymatic activity of acrosin towards benzoyl arginine paranitroanilide, however, was not significantly affected by CaM whether Ca<sup>2+</sup> was absent or present. Finally, the authors demonstrated that acrosin hydrolyzed CaM rapidly and extensively in the presence of EGTA. These results indicate that CaM interacts in vitro with proacrosin and acrosin, and that acrosin can attenuate CaM activity through proteolysis. Whether these interactions also occur in vivo and are involved in some aspects of spermatozoa function remains to be determined.

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