The effect of a high-salt extraction on the calmodulin within ciliary axonemes of *Paramecium*

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SUMMARY

The cilia on the demembranated cortical sheets of *Paramecium* lose the ability to cause "ciliary reversal" after a short period of extraction with a solution containing 0.5 M KCl. A portion of the Ca^{2+}-binding protein calmodulin (CaM) seems to be removed from ciliary axonemes by the extraction. However, we do not know what kind of structural changes are induced by the treatment. We used immunofluorescence labeling to examine the change in binding of anti-CaM antibodies to the ciliary axonemes after the high-salt extraction. The ciliary axonemes that were subjected to high-salt extraction were labeled more intensely than those that were not subjected to high-salt extraction. Similar results were obtained when isolated ciliary axonemes were used instead of cortical sheets. These results suggest that the removal of "ciliary reversal" in ciliary axonemes (extracted with 0.5 M KCl for a short period) is caused by some conformational changes around CaM in the ciliary axonemes.