

Does any DNA exist in basal body?

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SUMMARY

The basal part of cilia and flagella is called basal body or kinetosome, and it is an organelle consisting of the same “9+0” structure as that of the centrosome. Since mid-twentieth century, it has been repeatedly claimed, but also denied at all such times that the basal body/centrosome contains a certain DNA in its inside. Most researchers in the world seem to be discouraging or negative about the existence of such DNA. In the last decade, however, reports on discovery of the centrosomal DNA have emerged using a specific primer set for PCR. Kawai et al. demonstrated that they detected centrosomal DNA from the sperm and oocyte of echinoderms, and the sperm of bryophytes, which were localized in the centrosome by *in-situ* hybridization. Based on their information, we tried to double-check the findings by PCR using their designed-primers on total DNAs from sea urchin sperm and several ciliates with a lot of cilia, namely many basal bodies. Comparison of sequences obtained in this study showed extremely high similarity (more than 98%) with each other. The present double-check result reinforces us to re-evaluate the finding of the centrosome/basal body DNA by the authors.