Identification of gamone 1 gene homolog and determination of the sequence in the ciliate *Blepharisma stoltei*

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In the ciliate *Blepharisma*, conjugation occurs between cells of complementary mating types I and II. Conjugation-inducing substances called gamones participate in this interaction. Gamone 1 is produced by mating type I, whereas gamone 2 is produced by mating type II cells. Previous research showed that gamone 2 was common to five species of the genus *Blepharisma*, while gamone 1 was species-specific. We used one of these five species, *B. stoltei*, in this study. First, we confirmed that these cells were *B. stoltei* by DAPI staining, and examined mating type by mixing *B. stoltei* with synthetic gamone 2, type I cells and type II cells of *B. japonicum*. Second, we amplified a partial sequence of a gamone 1 homolog by PCR, using primers constructed from a known gamone 1 base sequence from *B. japonicum*, and determined a base sequence of about 1000 bp by cloning and sequencing. The amino acid sequence obtained after PCR showed high homology (~90%) to gamone 1 of *B. japonicum*. Further sequencing and northern blotting will be necessary to see the whole sequence of the gamone 1 homolog, and to examine expression of the homolog.