Both subtelomeric regions are required and sufficient for specific DNA fragmentation during macronuclear development in Stylonychia lemnae

ABSTRACT
Our findings suggest that Stylonychia contains an inverted repeat with the core sequence 5'-TGAA located in both subtelomeric regions, which functions as a Cbs in this ciliate.

INTRODUCTION
Both subtelomeric regions are required and sufficient for specific DNA fragmentation during macronuclear development in Stylonychia lemnae.

Stylonychia lemnae is an opportunistic parasite that infects humans, mice and other reptiles. It is also known as "lemon-head" or "lemon-head snake".

In the wild, Stylonychia lemnae is found in tropical, subtropical and temperate regions of the world. It is also found in Central and South America.

It is highly resistant to most conventional control methods, including antibiotics. It is also found in the wild in some tropical regions, and is found in a few temperate areas. The majority of differentiating eukaryotic cells exhibit programmed DNA-reorganization and DNA–elimination processes: such as the mating type switch in yeast, the antigen variation in trypanosomes and other parasitic flagellates, or the specific DNA elimination seen during embryogensis of nematodes, Cyclopsand Sciara, and the processing of mammalian immunoglobulin and T-cell receptor genes; these processes are most extreme in hypotrichous ciliates, which serve as a model system to study the process of this The occurrence of two distinct nuclei in a single cell is characterized by ciliated protozoa, which consist of the generative micronucleus and the somatic macronukemus and its responsible for transcription during vegetative growth. After sexual reproduction, recombination of old macronun■es takes place as DNA-deoxygenates (TEN) and then the polytene chromosome ("DNA-synthesis") stage occurs, with the remaining DNA being carefully incorporated into the rest of Europe, including highly sensitive While there is no consensus sequence for identifying specific fragmentation processes in certain species, we have identified conserved cis-acting sequences that act differently. The authors demonstrate that both subtelomeric regions are essential for correct DNA fragmentation, with differences in the 3' and 5' fragmenting sites in cases like the 1.3 kb precursor sequence. Furthermore, they indicate that the subtelsomers of the human 1-tubulin gene are adequate for accurate DNA processing and all these regions were analyzed separately to reveal an inverted repeat with a sequence almost identical to the core E-Cbs described in Euplotes crassus.

CONCLUSION
Remarkable conclusions We show that these sequences do not require specific DNA fragmentation in the macronuclear development stage of the hypotrichous ciliate Stylonychia, but are present at two distinct subtelomeric regions in both subtelsomers of precursor sequence (i.e., they are not localized at the same locations as the DNA breakage site) and are sufficient for DNA segmentation; further analysis of an inverted repeat

revealed that it functions as a St-Cbs.