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Judging Dept.

Arthur Beauregard

Student

BMS**5****Marlene Belfort**

Dept or Program Years in program

Mentor

Retrotransposition of the LI.LtrB group II intron is functionally linked
to DNA replication in *Lactococcus lactis*

Author (s)

Arthur Beauregard, Marlene Belfort

Group II introns are mobile genetic elements that invade their cognate intron-minus gene via an RNA intermediate in a process known as retrohoming. They can also retrotranspose to ectopic sites at low frequency. Retrotransposition of the LI.LtrB group II intron primarily targets the template for lagging-strand DNA synthesis, which suggests the utilization of the replication fork as a source of single-stranded DNA (ssDNA). Retrotransposition occurs independent of homologous recombination and of the endonuclease function of the intron-encoded protein, LtrA. Consistent with the use of ssDNA targets, a consensus of retrotransposition sites lack nucleotides critical for the unwinding of target duplex DNA. Mapping of retrotransposition integration sites on the chromosome shows a uniform, random distribution with the exception of a bias to putative *ter* sites, where replication may slow down or stall. Retrotransposition frequency also decreases in the presence of the nalidixic acid, an inhibitor of replication. This may indicate a functional link to replication and dependence on the replication fork for ssDNA. To determine which host functions are related to retrotransposition of the LI.LtrB group II intron in *L. lactis*, a host mutant library is being constructed.