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Coupling of poly(A) site selection and *trans*-splicing in *Leishmania*

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Intergenic regions of polycistronic pre-mRNAs of trypanosomatid protozoans are the sites of two processing reactions: polyadenylation of the upstream gene and *trans*-splicing of the capped miniexon to the downstream gene. Their close proximity and the lack of consensus motifs at poly(A) sites led us to test whether poly(A) site selection is governed by the location of the downstream splice acceptor in the DHFR- TS locus of *Leishmania major*. Whenever the position of the downstream splice site was altered, the poly(A) site was shifted 400-500 nucleotides upstream of the new splice site. In contrast, when the wild- type poly(A) site was eliminated, the downstream splice site was unaffected, and polyadenylation was maintained 200-500 nucleotides upstream of the splice site. In a second set of experiments, T7 RNA polymerase expressed in *Leishmania* was used to direct the synthesis of artificial pre-RNAs in vivo whose expression was found to require the presence of a downstream splice acceptor. We conclude that poly(A) site selection in *Leishmania* is specified by the position of the downstream splice acceptor and propose a scanning model for poly(A) site selection after splice site recognition.