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Journal of

Detection of a Short CCR5 Messenger RNA Isoform in Human Spermatozoa

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It has recently been reported that the Regulated upon Activation of Normal T-cells Expressed and Secreted (RANTES) chemokine may exhibit a chemotactic effect on sperm. The RANTES chemokine acts on target cells by binding to the CCR5 receptor, which is present on the surface of various cells. Spermatozoa contain a

complex repertoire of messenger RNAs (mRNAs) that may provide an insight into past events of spermatogenesis. The type and amount of CCR5 chemokine receptor transcript were investigated in spermatozoa that were isolated by the swim-up method from semen samples of men with normozoospermia. Using reverse transcription and real-time quantitative polymerase chain reaction (RQ-PCR) analysis, we found that the CCR5 mRNA isoform in human spermatozoa consists of exons 3 and 4, and is shorter than the transcript in leukocytes. This CCR5 transcript may represent a more stable mRNA isoform; one that is used to biosynthesize the CCR5 receptor in spermatogenesis or the early stages of embryonic development.

Key words: Sperm, mRNA, CCR5, RQ-PCR

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