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# Recapitulation of Germ Cell- and Pituitary-Specific Expression With 1.6 kb of the Cystatin-Related Epididymal Spermatogenic (*Cres*) Gene Promoter in Transgenic Mice

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The *Cres* (cystatin-related epididymal spermatogenic) gene encodes the defining member of a new subgroup within the family 2 cystatins of cysteine protease inhibitors. *Cres* expression is highly tissue- and cell-specific, with messenger RNA (mRNA) present in the testicular round/elongating spermatids, proximal caput epididymal epithelium, gonadotroph cells in the anterior pituitary gland, and corpus luteum of the ovary. To begin to elucidate the molecular mechanisms controlling the tissue- and cell-specific expression of the *Cres* gene, transgenic mice were generated containing 1.6 kilobases (kb) of the mouse *Cres* promoter linked to the bacterial chloramphenicol acetyltransferase (CAT) reporter gene. A CAT enzyme-linked immunosorbent assay detected CAT protein in the testis, epididymis, isolated cauda epididymal spermatozoa, and anterior pituitary gland from mice heterozygous and homozygous for the transgene. However, reverse transcription (RT)-PCR did not detect CAT mRNA in any regions of the epididymis, suggesting that the CAT protein detected in the epididymis was from spermatozoa. RT-PCR also did not detect CAT mRNA in the ovary. RT-PCR analysis of the testes from mice of different postnatal ages showed CAT mRNA first detected at day 22, which correlated with the first appearance of *Cres* mRNA and with the presence of round spermatids. These studies demonstrate that 1.6 kb of *Cres* promoter contains the DNA elements necessary for germ cell and pituitary gland-specific expression but lacks critical sequences necessary for expression in the epididymis and ovary.

Key words: Epididymis, testis, spermatogenesis, gene regulation

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