Z601 The *Psx* Homeobox Gene is X-Linked and Specifically Expressed in Trophoblast Cells of Mouse Placenta

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We have previously isolated a cDNA clone for a homeobox-containing gene that its expression was shown by Northern blot analysis to be restricted to the extraembryonic tissues. In this study, *Psx* gene expression was further examined using *in situ* hybridization to determine the cellular distribution of *Psx* transcripts during embryo development. *Psx* expression was trophoblast-specific and restricted to the giant cells and labyrinthine trophoblast layer. In addition, the gene expression was detected in differentiated Rcho-1 trophoblast cells *in vitro*, which is typical of trophoblast giant cells *in vivo*, but not in proliferating Rcho-1 cells and HRP-1 cells. Zoo blot analysis revealed that the *Psx* gene was detectable only in mouse and rat but not in other vertebrate species tested. *Psx* was localized to the murine X chromosome.

Z602 Identification of a New Member of Trophoblast-Specific Homeobox Gene, *Psx*-2

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Psx (*Psx-1*) is a trophoblast-specific homeobox gene. We have isolated a second *Psx* gene, named *Psx-2*, from the mouse conceptus cDNA library. Overall sequence identity between *Psx-1* and *Psx-2* was 91% at the nucleotides and 81% at the amino acids. Both genes contain 227 amino acids. Genomic sequence analysis revealed that *Psx-2* gene composed of four exons and three introns spanning approximately 2.6kb. The 5′-flanking region of *Psx-2* contained a putative TATA box and other transcription factor binding sites such as Sp1, CP2 and Est-2. The transcription start site was determined by primer extension analysis. A transient-transfection analysis using a luciferase reporter gene showed that *Psx-2* promoter could confer a high basal transcriptional activity in both *Psx*-producing and non-producing cells.