

The complete murine cDNA sequence of the transcription factor AP-2

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Using a partial human AP-2 cDNA clone spanning the two PvuII sites from nucleic acid position 152 to 413 (1, 2), we have isolated four independently derived overlapping cDNA clones from a commercially available mouse embryo (day 13.5) cDNA library (Novagen, Madison, WI). The complete assembled sequence is 1596 bp in length with the ATG start codon at bps 71–73 and the stop codon at bps 1382–1384. A comparison of the human and murine sequence reveals only 4 amino acid exchanges and a number of different codon usages. There is a surprisingly high degree in nucleic acid sequence homology in the 5-prime and 3-prime untranslated murine and human mRNA suggesting that these sequences may have a function in post-transcriptional regululation of gene expression. A partial C-terminal cDNA has been reported previously (ref. 3; EMBL databank acession number X57012), which matches our sequence perfectly, but misses the triplet encoding amino acid 390.

To compare murine and human RNA transcripts we have further used the human AP-2 cDNA probe to hybridize poly $(A)^+$-selected RNA from murine embryos (day 13.5) and the human teratocarcinoma; cell line PA-1 (ATCC #CRL 1572). Northern blots were hybridized and washed under conditions of high stringency with the final wash for 30 min in 0.2×SSC/0.01% SDS at 65°C. The probe detects two abundant mRNAs with with an apparent size of 3.0 and 1.8 kb in both RNA preparations (Figure 1) a pattern that is equivalent to results that have been reported for HeLa cells (1). Thus, the expression pattern of AP-2 in murine and human embryonic tissues appears to be very similar.

The EMBL accession number for the murine AP-2 cDNA is X74216.

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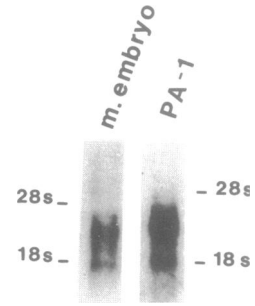

Figure 1. Northern blot analysis of AP-2 mRNA expression in poly $(A)^+$-selected RNA from mouse embryo (day 13.5) and from the human teratocarcinoma cell line PA-1.

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