M/SAR PROPERTIES OF BOVINE DNA ENCLOSING THE
TYROSINE HYDROXYLASE GENE

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16 kb of the bovine DNA containing the TH (tyrosine hydroxylase) gene and its
5' flank was checked toposs M/SAR abilities. The sequence of the promoter
and the first exon was analyzed by the MarFinder (http://www.ncgr.org) and a
regulatory region within it was predicted as a matrix binding site. Primers
designed to amplify this region were used to PCR performed on DNAs bound
to or released from bovine nuclear matrices. The PCR product appeared
preferentially in matrix bound samples from the TH-expressing adrenal medulla
but in unbound ones from the TH-negative liver. However in vitro binding
assay with DNA fragments covering the whole 16 kb region and bovine nuclear
matrices showed neither the tissue specificity nor binding of proximal part of
the TH gene. Instead nuclear matrices from both adrenal medulla and liver
bound the 1.2 kb EcoRI/XhoI fragment enclosing distal half of the first intron,
the second exon and beginning of the second intron. Sequencing of this
fragment followed by the MarFinder search pointed to ~130 bp region in the
first intron as a putative M/SAR.