

The stage-specific expression of Lysosome-associated protein transmembrane 4 α (LAPTM4 α) in preimplantation rabbit nuclear transfer (NT) embryo was identified with the DDRT-PCR and reverse Northern Blot. The full length(1364bp) cDNA of LAPTM4 α was screened out from cDNA library constructed with rabbit ovary and In Situ Hybridization was used to trace the distribution of the LAPTM4 α mRNA in intra-ovary, especially the follicle which proved that the LAPTM4 α gene expression is involved in the follicles development, maturation, ovulation, luteinization, and preimplantation development in the rabbit (*Oryctolagus cuniculus domestica*). To our knowledge, this is the first characterization of LAPTM4 α gene expression and mRNA distribution in the rabbit ovary and first evidence for this gene involving in follicle development and rabbit preimplantation development.

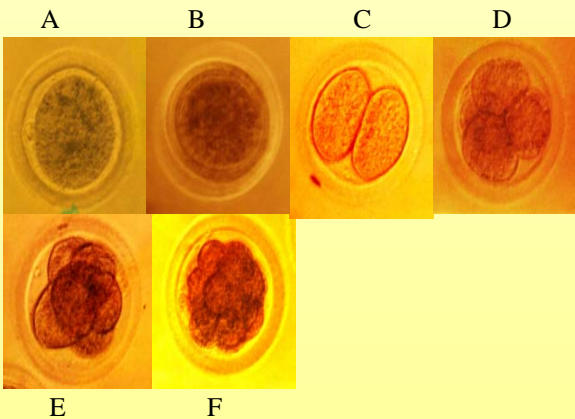


Fig.1, Experimental materials: The early rabbit cloning embryos.

A: MII oocyte; B: 1 cell-embryo; C: 2 cell-embryo; D: 4 cell-embryo
E: morula; F: Blastocyst.

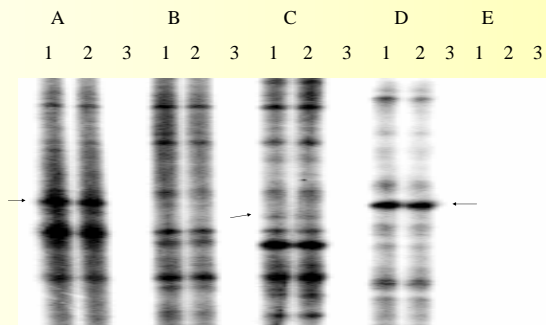


Fig.2, Portion of autoradiogram of amplicons obtained mRNA DDRT-PCR preimplantation rabbit embryos. A: 8-16 cell stage; B: 4-cell stage; C: 2- cell stage; D: 1- cell stage; E: Negative control (PBS). 1,2: Parallel reaction; 3: Negative control. Arrowhead: DD-fragments.

clone	size(bp)	DNA homology(BLASTN)	Accession No.	%Identity	Overlap
1	280	Novel			
2/13	213	Hmo sapiens nucleoporin Nup43 mRNA	AF514997	87	152
3	413	Novel			
4	241	Homo sapiens cDNA FLJ13287 fis	AKO23349	86	149
5	278	Oryctolagus cuniculus UDP glucuronosyltransferase (UGT2C1) mRNA	L01083	91	55
6	267	Rabbit DNA for L1Oc1 repeat	X15967	98	59
7	289	Rabbit beta-like globin	M18818	98	60
8	454	Novel			
9	257	Mus musculus 10 days embryo whole body cDNA	AK012191	84	147
10	211	Rattus norvegicus muskelin (Mkln1).mRNA	NM-031359	93	134
11	330	Rat DDRT-PCR Express Library Rattus norvegicus cDNA	BQ529281	98	299
12	245	Novel			

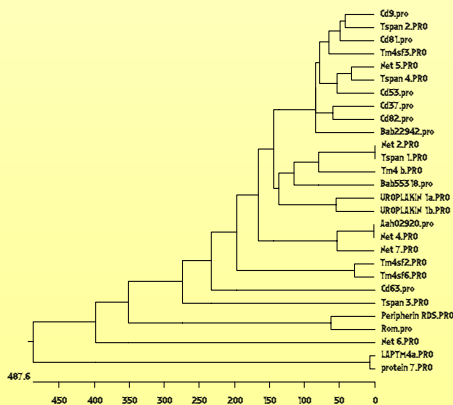


Fig.5, The phylogenetic tree constructed with LAPTM4 α and 28 proteins containing 4 transmembrane proteins using Clustal method.

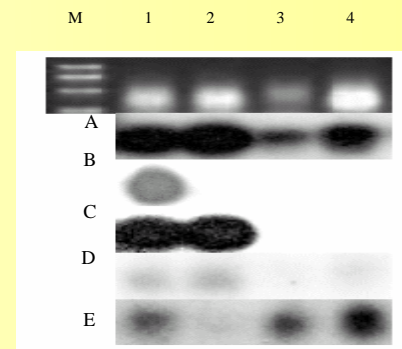


Fig.5, Reverse Northern Blot analysis
M: DNA make; 1: 8-16 cell cloning embryo
2: 4-cell cloning embryo; 3: 2- cell cloning Embryo; 4: MII oocyte; A: β -actin; B: C048; C: A023; D: C043; E: A028.

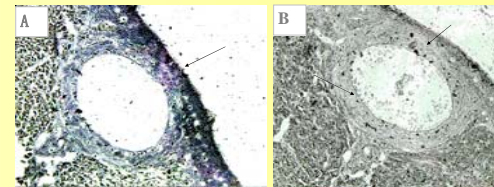


Fig.6, The expression of LAPTM 4 α in various follicles by ISH with A: antisense probe and with B: sense probe which is specific for LAPTM 4 α .

References:

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Acknowledgements:

This work was supported by State Basic Research Development Project (973); Grant number: 2000016107.