

Harmonisation of *Trichinella* infection control methods, quantitative risk assessment in pigs and an early diagnosis in humans to increase treatment efficacy
 P. Boireau, S Lacour, I Vallée (AFSSA), Liu Mingyuan (Jilin University, China)

EADGENE

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AFSSA, ISS, PZI, UCM, BfR, ISCIII, PZH, RIVM, SSI, DFVF, VLA, SVA

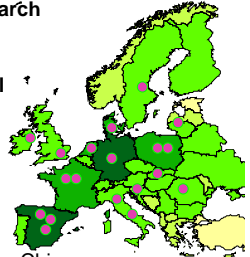
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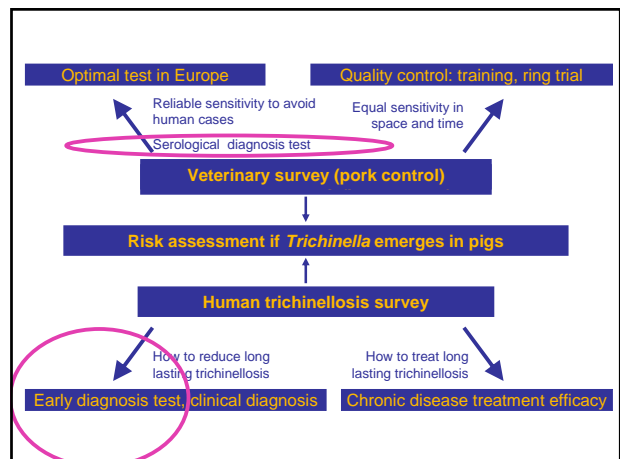
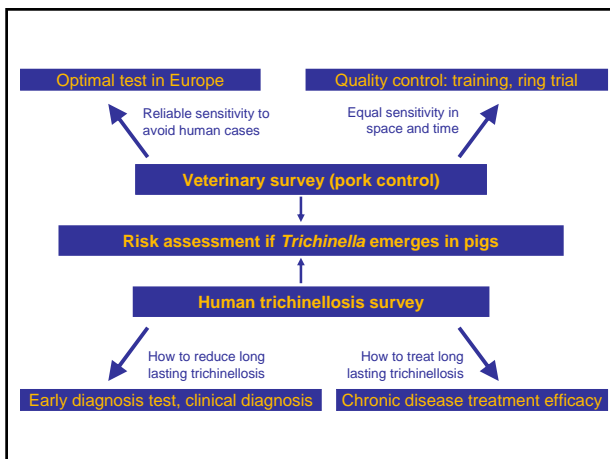
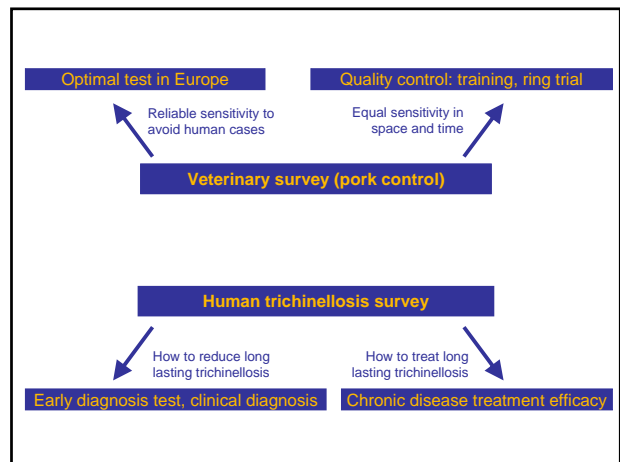
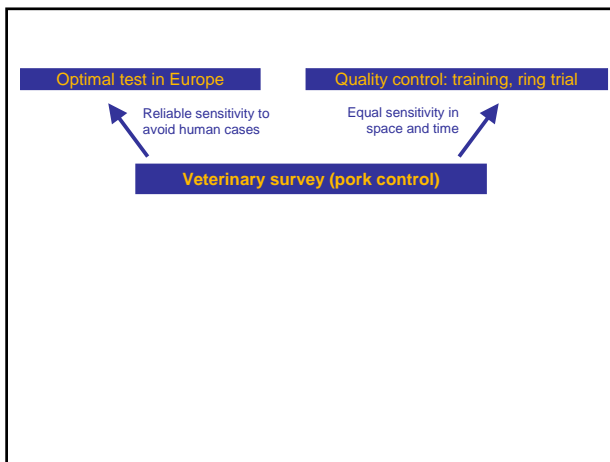
TRICHIMED

Consortium of laboratories

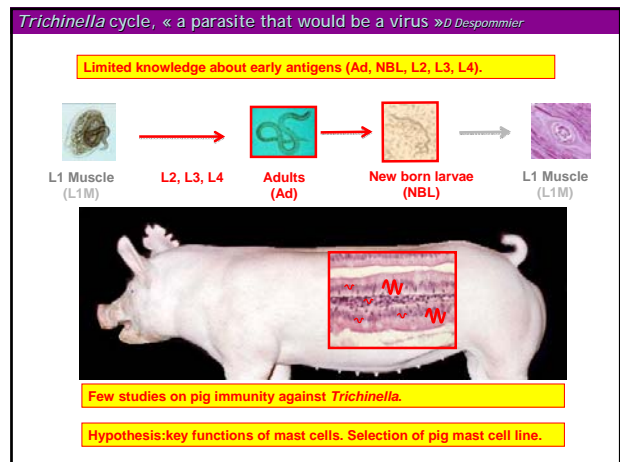
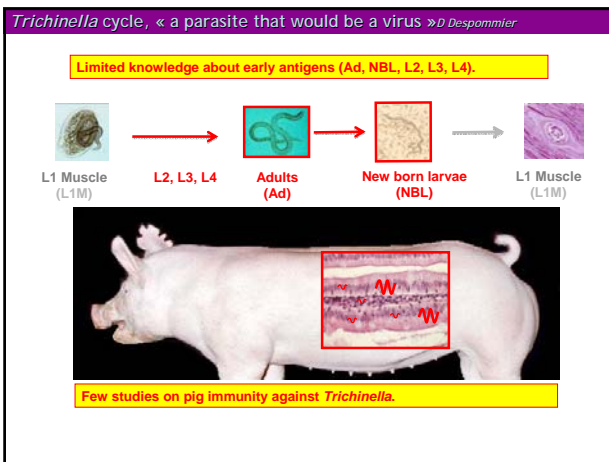
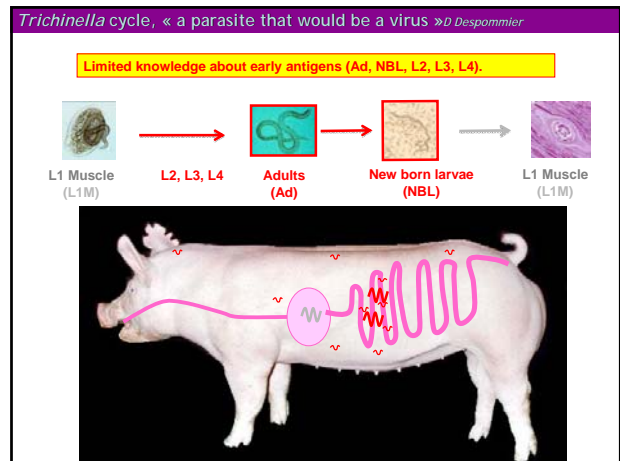
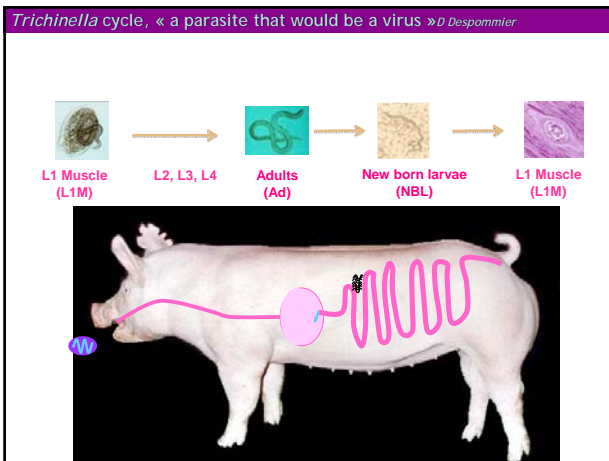
- Organisation of *Trichinella* research (diagnosis, control, host interaction) since 2000
- Harmonisation of animal control and Trichinellosis diagnosis



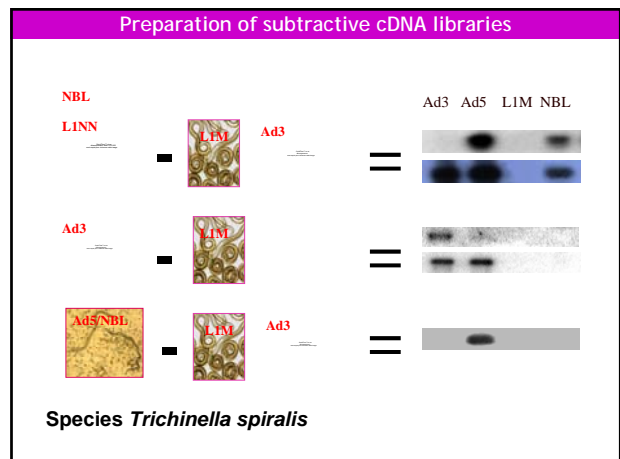
Network with scientists from Canada, China



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***Trichinella* invasive stages antigènes**



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Analysis of subtractive cDNA libraries

Clones	Ad3	Ad5	NBL	L1M	Predicted protein homology
T32G10	-	+	+	-	<i>T. spiralis</i> serine proteinase
T42E10	-	+	+	-	<i>Mus musculus</i> mast cell protease-2
T31D4	-	+	+	-	<i>T. spiralis</i> 43 kD secreted glycoprotein, <i>C. elegans</i> DNase II homolog F09G8.2
T33A4	-	+	+	-	<i>T. spiralis</i> 43 kD secreted glycoprotein <i>Homo sapiens</i> deoxyribonuclease II alpha
T647	-	+	+	-	<i>T. spiralis</i> glutamic acid rich protein
T660	-	+	+	-	No homology
T3222	+	+	+	-	<i>Homo sapiens</i> Elastase 2A
T3223	+	+	+	+	<i>T. spiralis</i> unknown protein <i>T. spiralis</i> 43 kD secreted glycoprotein <i>Homo sapiens</i> deoxyribonuclease II alpha
T43E5	+	+	+	+	<i>T. pseudospiralis</i> histone H3.3; <i>T. spiralis</i> histone H3.3
T512	+	+	+	+	<i>Onchocerca volvulus</i> glutathione S-transferase
T54	+	+	+	+	<i>C. elegans</i> FYVE type Zinc finger protein
T12D7	+	+	-	-	Zebra fish retinoid X receptor alpha
T1348	+	+	-	-	<i>Caenorhabditis elegans</i> caveolin
T1533	+	+	-	-	<i>Homo sapiens</i> zinc finger protein 312
T13E8	+	+	-	-	No homology
T671	-	+	-	-	<i>Caenorhabditis. elegans</i> gene (col-59)

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Zhu XP et al. Parasite. 2005;12(2):151-157
 Fu B et al. Veterinary Parasitology. 2005;132(1-2):31-35
 Fu B et al. Veterinary Parasitology. 2005;132(1-2):27-30
 Liu M et al. Parasitology. 2007;134:1443-1455
 Yang, J. et al. Biochemical and biophysical research communications 2008, 365, 528-533

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NBL1

**NBL1: Is it possible to use it for diagnosis purpose?
 Role in nurse cell morphogenesis?**

NBL1 antigenicity

Signal peptide Protease domain C terminal

H D S

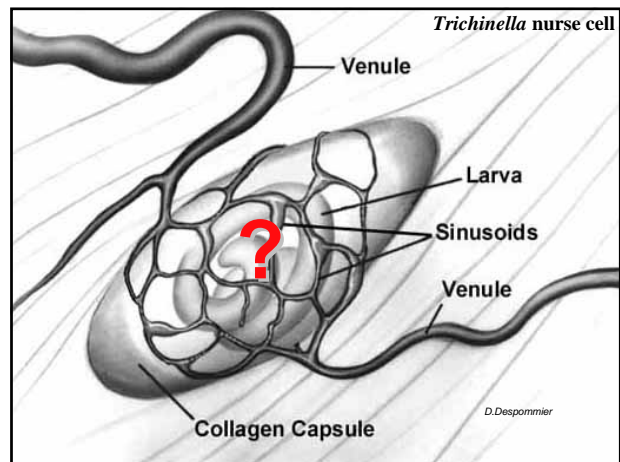
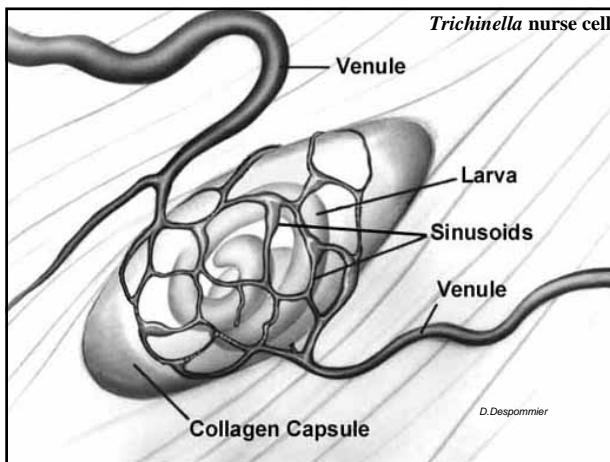
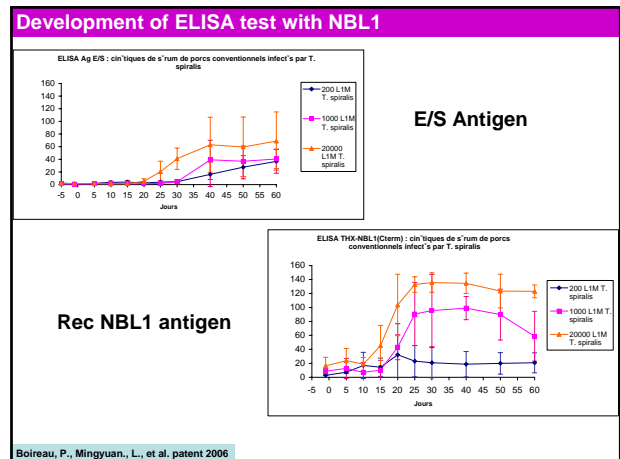
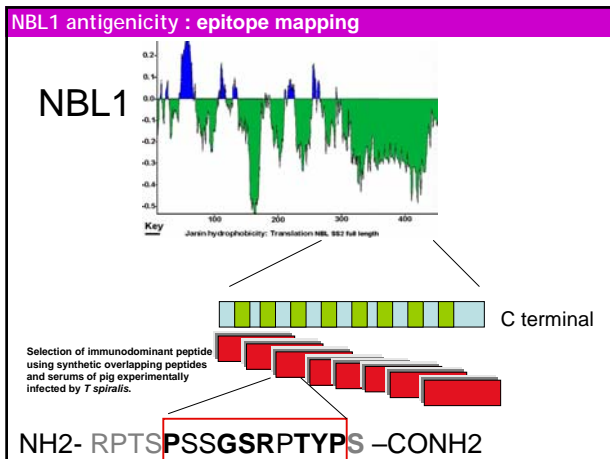
Clones expressed in E coli+ (70/113)

Antigenic domain

Hydrophylicity NBL1

C terminal part

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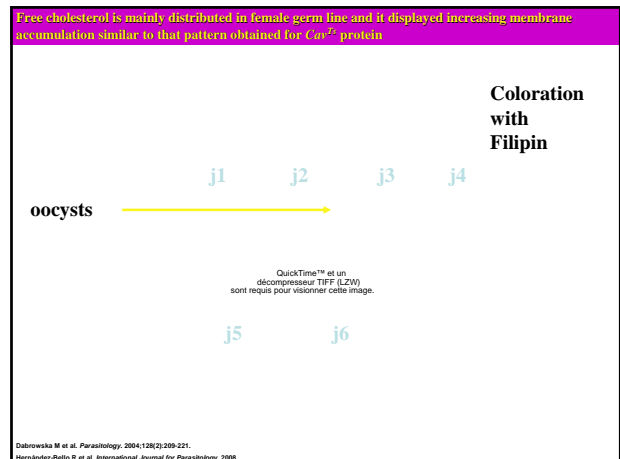
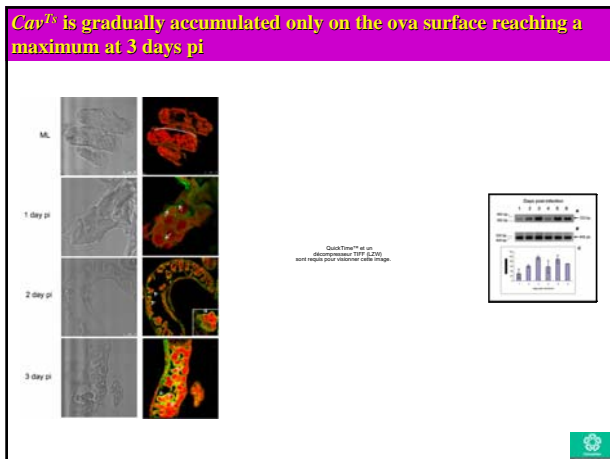
NBL1

- Stage specific gene
- Serine protease
- Immunodominant epitope
- Involvement in *Trichinella* nurse cell

Analysis of clones from subtracted cDNA libraries

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Ts caveoline

- Low antigenicity in host experimentally infected
- *Cav^{TS}* from *T. spiralis* plays a role in the oocyte maturation during development demonstrating gender-specific expression
- New inhibitors for nematode development to test (effect+++ reproduction)

