

On line material

Table S1a. Detailed results of IHC examinations in 40 goats homozygous for isoleucine at codon 142.

Sheep ID	Age	Brain	TSC	ENS	RphLN	PITo	MamLN	DjeLN	3rdEy	PscLN	PPs	PrfLN	RMLT	Splee
G08-1116	78				2	1.5	0.2	1.5	1.5	1.5		2		
G08-1119	84				2.5	2.5	1.5		1	1.5	2		0.5	2.5
G08-1127	65				2.5	1.5			1.5				0.5	
G08-1129	66				1.5	1.5	1.5			2		0.2		
G08-1143	102			0.2	1.5	1.5	1	1	1	1.5	1	1.5	1	
G08-1148	48				1	1.5								
G08-1150	41									1.5				
G08-1344	53				2		1.5	1.5	0.5	0.2	1.5	0.2	1.5	1.5
G08-1360	90				2									
G08-1361	66				1.5	1					0.2	0.2		
G08-1372	65				2	2.5	1	1				1.5		
G08-1374	23			0.2	3	3	2	2.5	2	3	2	3		
G08-1384	78					0.5	0.5					0.5		
G08-1389	48				2	2	1.5	1.5	2.5	1.5	2	1.5	1.5	
G08-1396	109				2	2.5	2	1.5	2	1.5	2		1.5	2
G08-1401	109				0.2									
G08-1410	66				1.5									
G08-1418	66			0.5	2.5	1	2			1.5				
G08-1427	41				2	2	1.5	1.5	2.5	1.5	2.5	1.5	2.5	1
G08-1430	102				1.5	1.5	1		1.5	1	1.5	1		
G08-1453	78				2	2	1		2	1.5		2		
G08-1461	36				0.2	1								
G08-1464	40				1.5	1.5		0.2	1	1				
G08-1472	102				2	2								
G08-1484	65				1.5	1.5	0.2	1	2		2		1	1.5
G08-1490	41				3	1.5	1.5	1	1.5	2.5	2	2	0.5	0.2
G08-1353	66	0.2			1	1	1	1	2.5		2		1.5	0.2
G08-1352	109	0.5		0.5	1.5	2	1	2	2.5	2	2.5		1.5	
G08-1429	101	0.7			2.5	2.5	1.5	2.5	2.5	0.5	2	1.5	3	
G08-1446	84	1.2	1	0.5	1.5	1.5	0.2	1.5	2			1		0.2
G08-1439	114	1.7	0.2		2	2.5	2.5	1.5	2.5	2	0.5	1.5		
G08-1420	78	2.1	1	2	2.5	2.5	2	2.5	2.5	2.5	2.5	1.5	3	1.5
G08-1433	114	4.5	1	0.5	1.5	1.5	2	1.5	1.5	1	1.5			
G08-1460	109	7.0	1.5		1.5	2	2	1.5	2.5		2		0.5	
G08-1373	108	12.0	2	1.5	1.5	1.5	0.2	1.5	1.5	1.5	2		1	1
G08-1386	84	12.8	2	2.5	2.5	2.5	1.5	2.5	2	2.5	2.5	2.5	2.5	1.5
G08-1407	53	19.5	3	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3	2.5	1.5
G08-1447	49	20.0	3	2	1.5	1.5	2	1.5	1.5	1	1.5	1		1.5
G08-1469	102	20.0	3	2	2.5	2	1.5	1.5	2.5	2.5	0.5	2		1.5
G08-1475	47	27.5	3	1.5	2	2	1.5	2	2.5	1.5	1.5	1.5	2.5	1

Table S1b. Detailed results of IHC examinations in 32 goats carrying the methionine allele at codon 142.

Sheep ID	Age	Brain	TSC	ENS	RphLN	PITo	MamLN	DjeLN	3rdEy	PscLN	PPs	PrfLN	RMLT	Splee
G08-1125	66					1.5								
G08-1140	66								1.5					
G08-1358	54				1	1.5		0.2						
G08-1367	54				2	1.5			0.5					
G08-1465	101									1				
G08-1489	40				1	1								
G08-1497	40				2	1.5	0.2							
G08-1425	101				1.5	1.5	0.2	1.5		1.5		1		
G08-1449	40	0.2			1	1	0.2							
G08-1114	41	0.5			2	2.5	2.5	1	1.5	1	0.5	1.5	0.2	2
G08-1340	40	0.5			1.5									
G08-1351	40	0.5												
G08-1391	114	0.5			2.5	2.5	1	2.5	2.5		2.5		1	1.5
G08-1398	42	1.5	0.5		1.5	2	0.2	1		1.5				1
G08-1445	48	1.5												
G08-1126	102	1.7		0.5	2	2	0.2	2	2.5	1.5	1.5			1.5
G08-1377	78	2.0												
G08-1481	40	2.1	0.2	0.5	1.5	2	1.5	1.5	2.5		2	1	0.5	1
G08-1436	41	2.2	1		2.5	2.5	2.5	2.5	2	2	2	1.5	2	
G08-1365	65	2.5	1	0.2	1.5	1.5		1	2					
G08-1383	40	2.5	0.2	1	2	2.5	0.2	2		2	2.5	1.5	2.5	1.5
G08-1348	66	3.0				0.2								
G08-1431	65	3.0		1	2.5	2.5	2	2.5	2.5	2	2.5	1	2.5	2
G08-1402	41	3.0												
G08-1415	41	3.5			1.5	1.5	1	1.5	1.5	1	2		1.5	0.2
G08-1423	48	3.5	2		1.5	1.5	1	2			0.2			
G08-1349	41	4.0	1	2	3	3	0.2	3	2.5	2.5	2.5	0.2	1	0.2
G08-1451	41	4.0	1.5	1	2.5	2.5	1	2.5	2.5	1.5	2.5	1	2.5	1.5
G08-1131	41	5.5	1	1	2	2	1	2	2.5	2	2.5	0.2	0.5	0.2
G08-1494	109	6.5	2	1.5	2.5	2.5	1.5	2.5	1	1.5	1.5	2	1.5	1
G08-1368	47	7.2	0.5	0.2	2	2		2	1			1	0.5	
G08-1495	85	10.4	2	1.5	0.2	1.5	0.2	1.5						

Age, in months. Brain, cumulative PrP^d score in the 10 areas examined. TSC, thoracic spinal cord. ENS, enteric nervous system. RphLN, retropharyngeal lymph node (LN). PITo, palatine tonsil, MamLN, mammary LN. DjeLN, distal jejunal LN. 3rdEy, third eyelid. PscLN, prescapular LN. PPs, Peyer's patches. PrfLN, prefemoral LN. RMLT, recto-anal mucosa-associated lymphoid tissue. Splee, spleen. Blank cells, absence of detectable PrP^d. Black cells, tissue not available for examination. Figures for TSC, ENS and the different LRS tissues represent a subjective PrP^d accumulation score from 0.2 (trace) to 3 (severe).

Table SII. Relationship between enteritis, scrapie infection and accumulation of PrP^d in the Peyer's patches.

	Enteritis		
	Severe/granulomatous	mild/moderate	no enteritis
Scrapie +ve	5	29	38
PPs +ve	4	16	20
PPs -ve	1	13	18
Scrapie -ve	3	61	64

PPs, distal jejunum Peyer's patches.

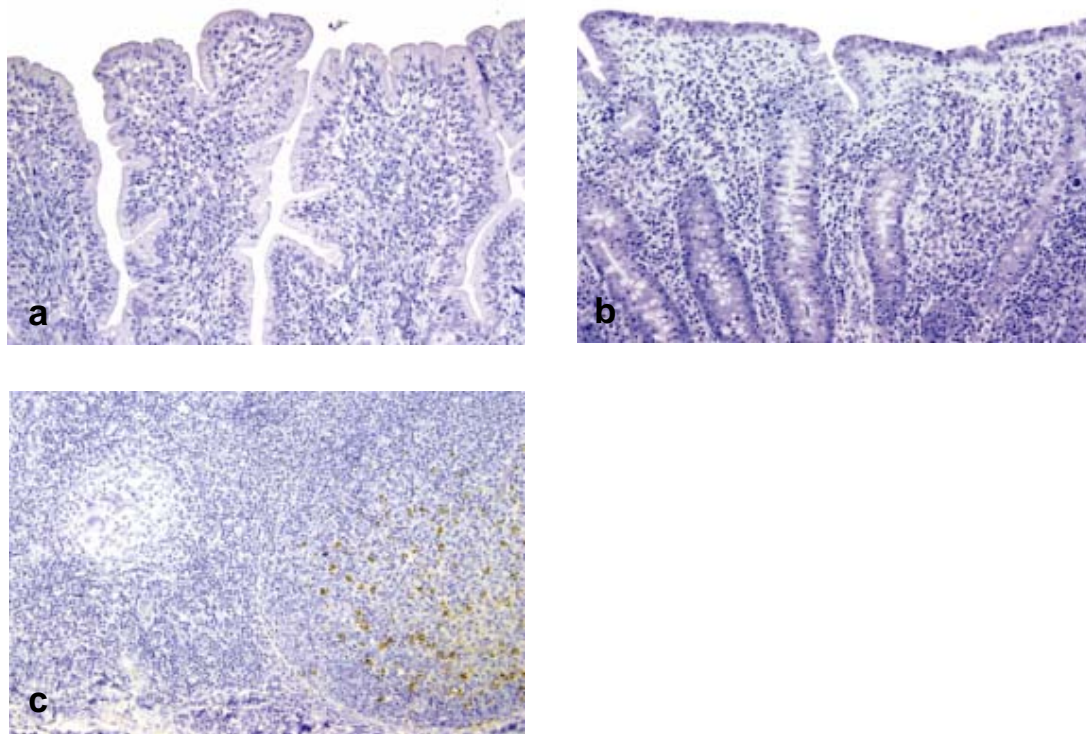


Figure S1. Chronic enteritis (atrophy and fusion of ileal villi, and mononuclear inflammatory cell infiltrates in lamina propria) in a scrapie-infected goat (**a**) and in a non-infected animal (**b**). Granulomatous enteritis of undetermined origin (not mycobacterial) in a scrapie-infected goat showing PrP^d accumulation in Peyer's patches (**c**). IHC with Bar224 PrP antibody and haematoxylin counterstaining (x10).

Table III. Relationship between CAEV seropositivity and mastitis, scrapie and accumulation of PrP^d in the mammary gland.

	CAEV +ve		CAEV -ve		
	LPM +ve	LPM -ve	LPM +ve	LPM -ve	
Scrapie +ve	13	19	0	40	
MG +ve	5	0		0	
MG -ve	8	19		40	
Scrapie -ve	nd	50*	nd	78*	nd

CAEV, caprine arthritis-encephalitis virus; LPM, lymphoproliferative mastitis; MG, mammary gland (results refer to presence or absence of PrP^d); nd, IHC examination of mammary gland not done on scrapie negative goats.

* values refer to CAEV serology in the 128 scrapie negative goats.

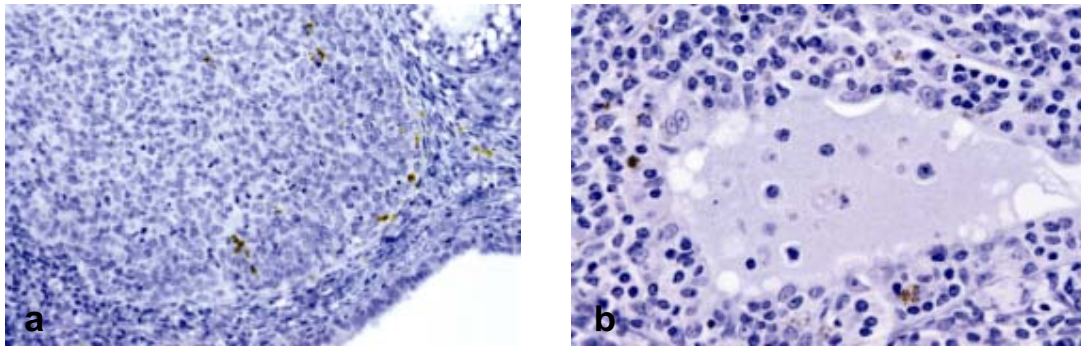


Figure S2. Accumulation of PrP^d in the mammary gland of goats that were infected with scrapie and CAEV and had developed a lymphoproliferative interstitial mastitis. PrP^d within cells in the juxta-ductal proliferating lymphoid follicles (a), and within cells that appear to cross the ductal epithelium (b). IHC with Bar224 PrP antibody and haematoxylin counterstaining (magnification: a, $\times 20$; b, $\times 40$).