

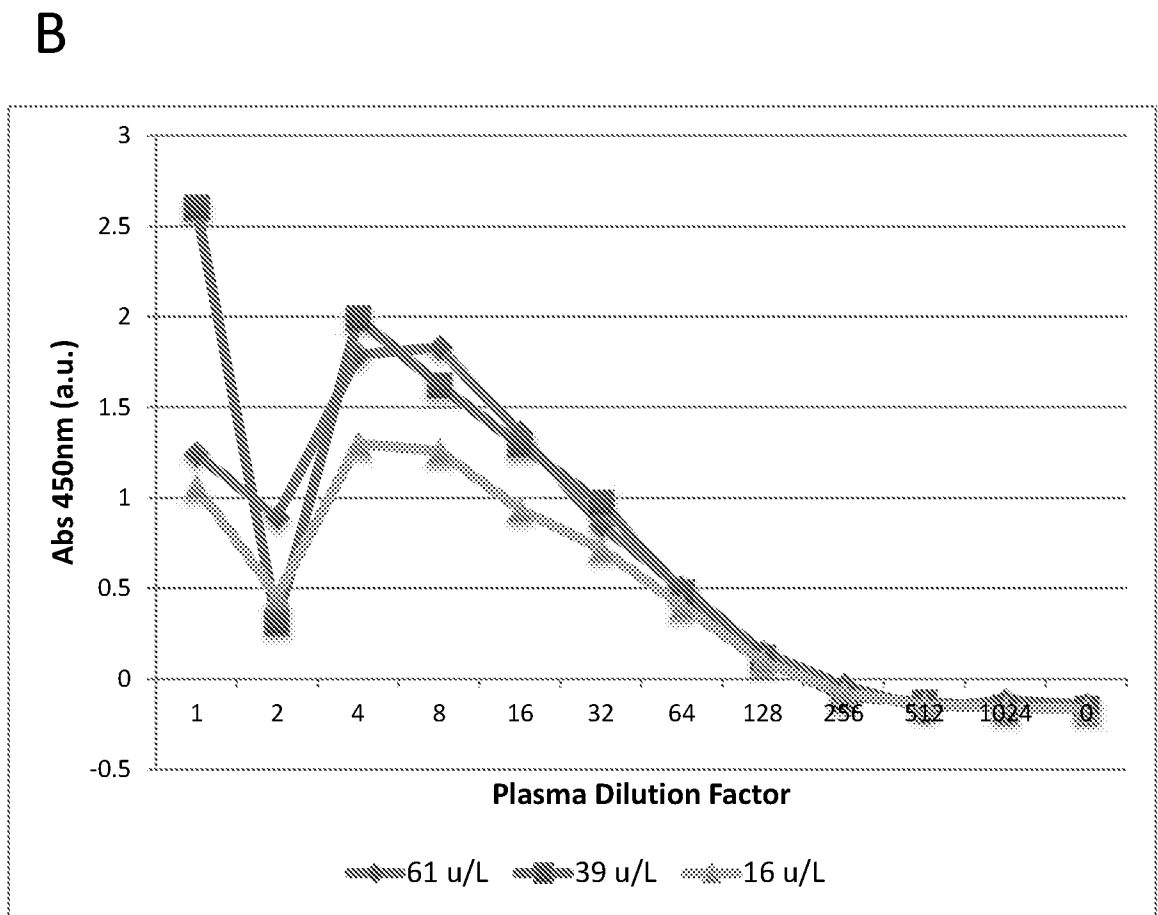
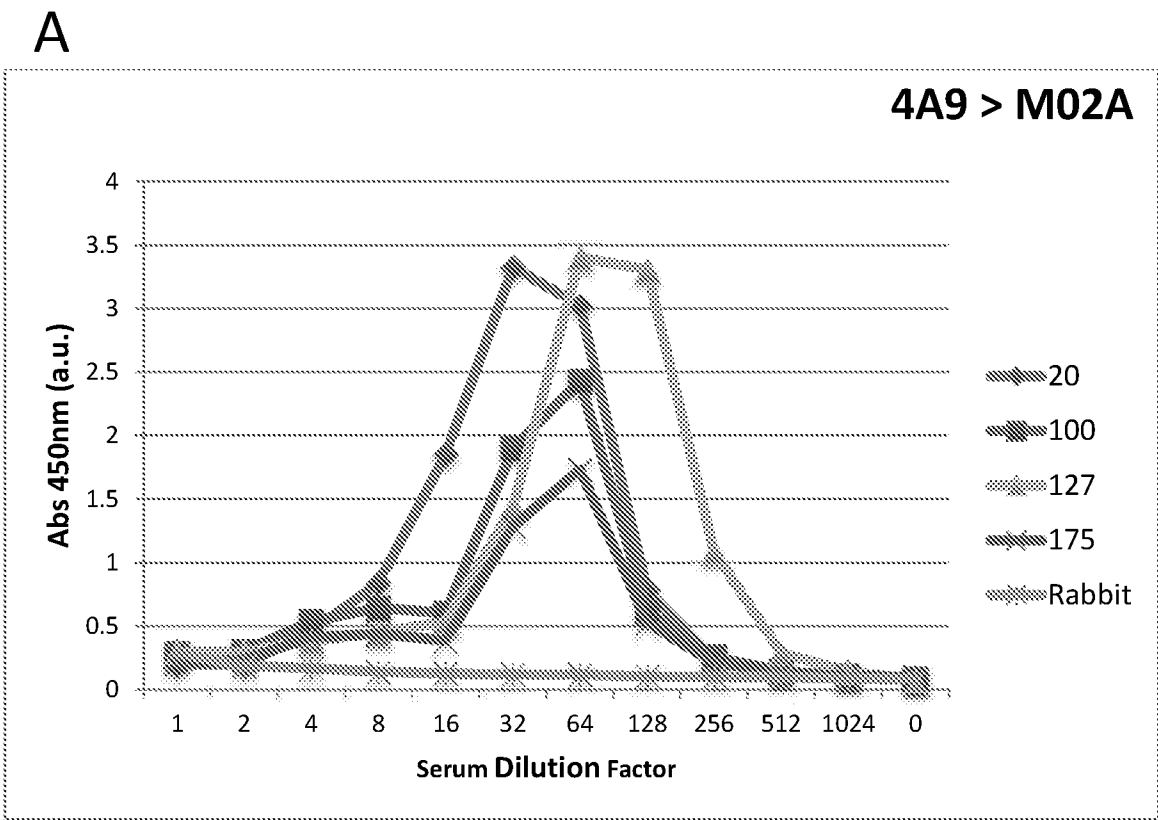


FIG. 1

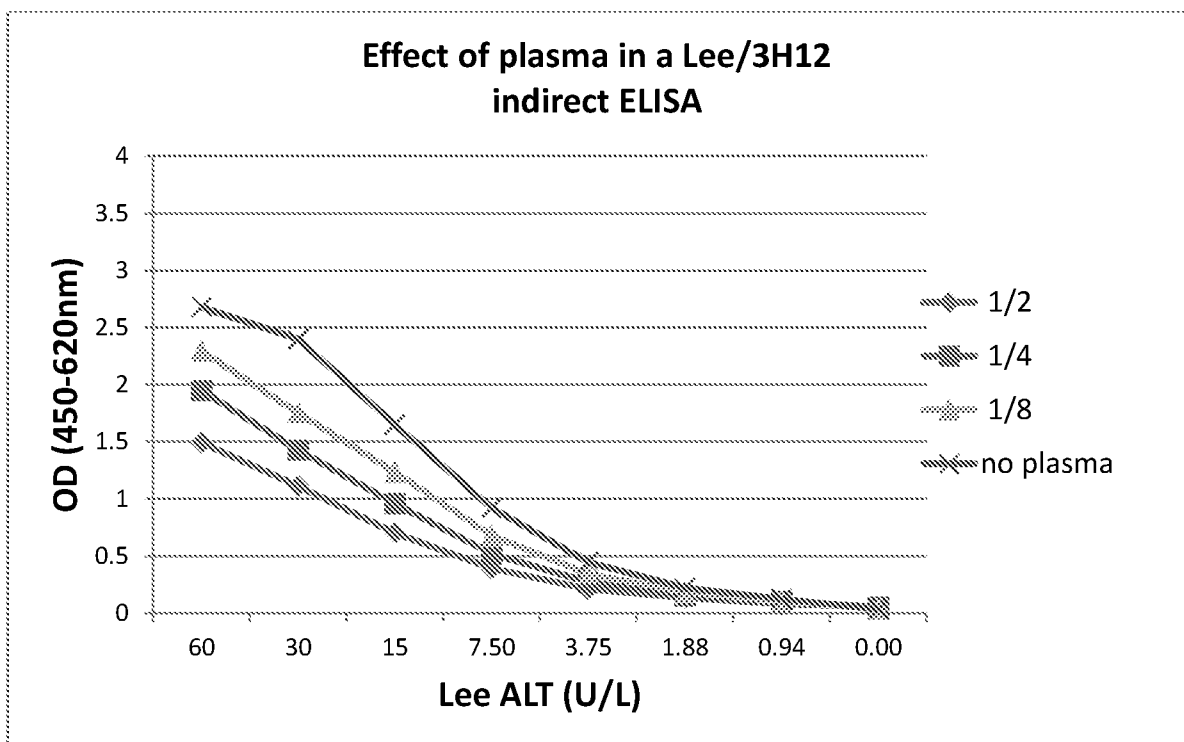
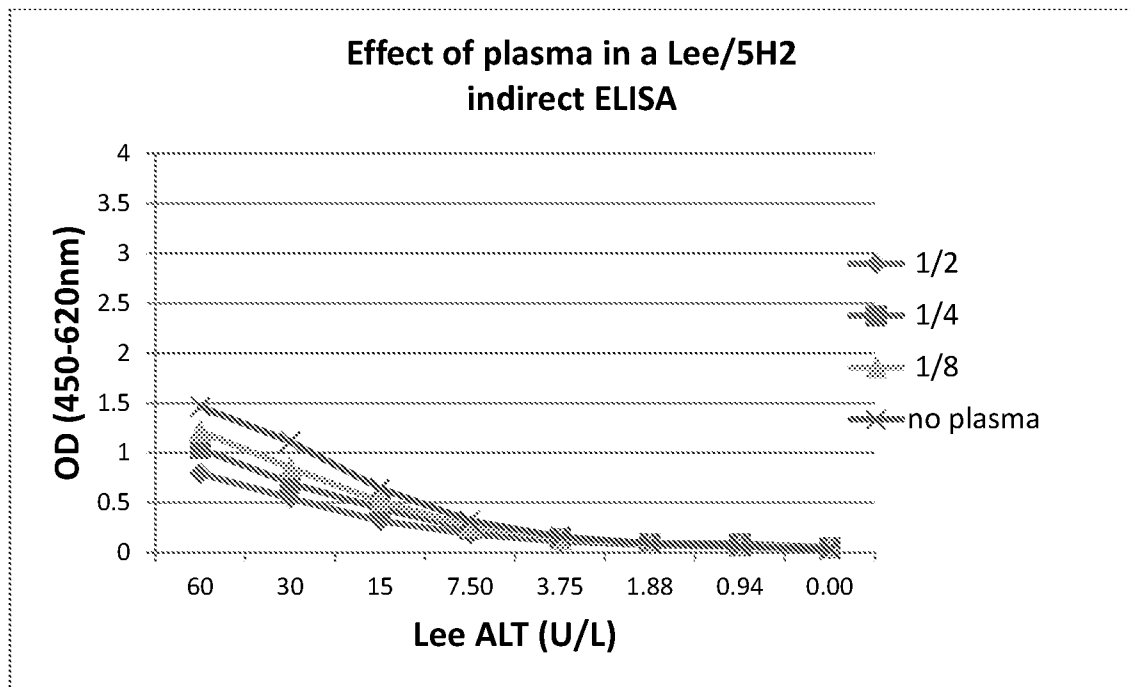


FIG. 2A

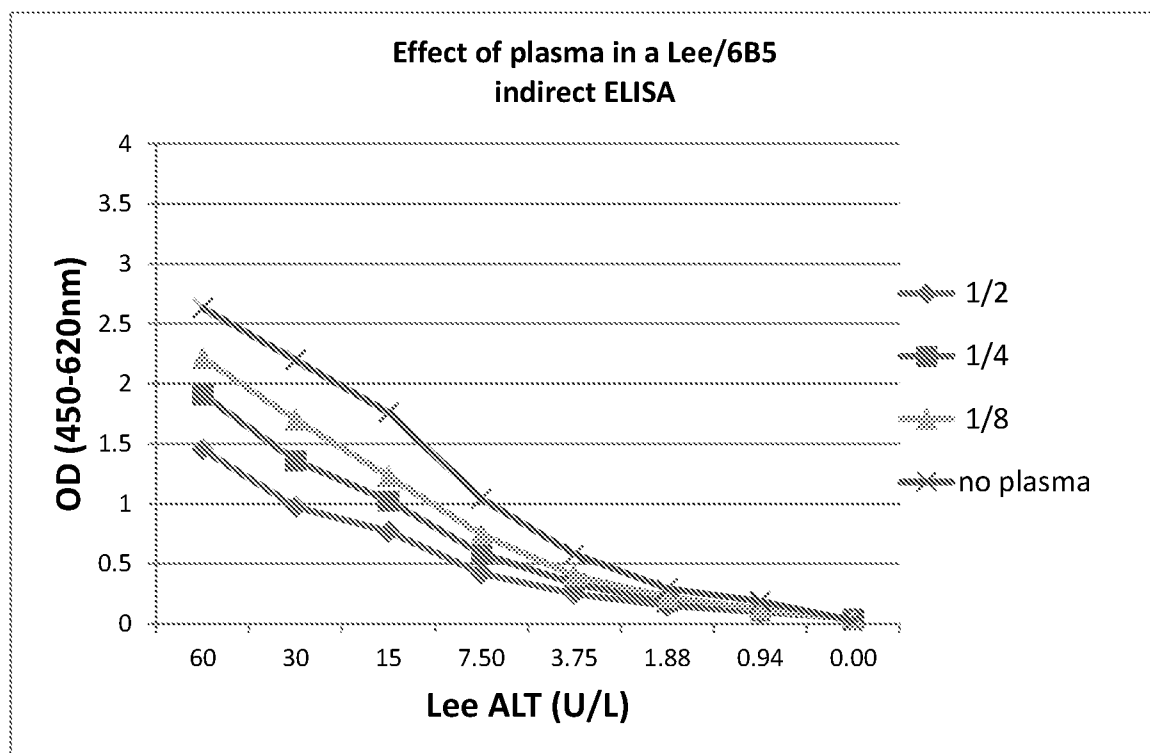
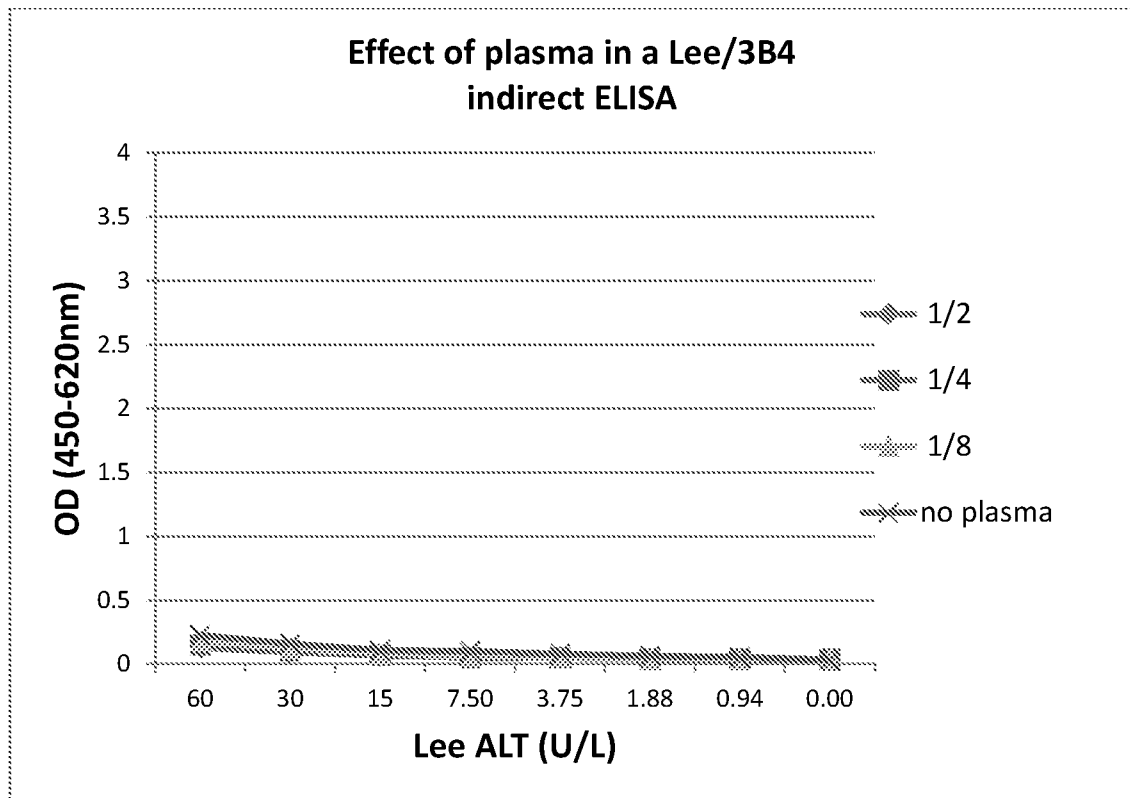


FIG. 2A (CONTINUED)

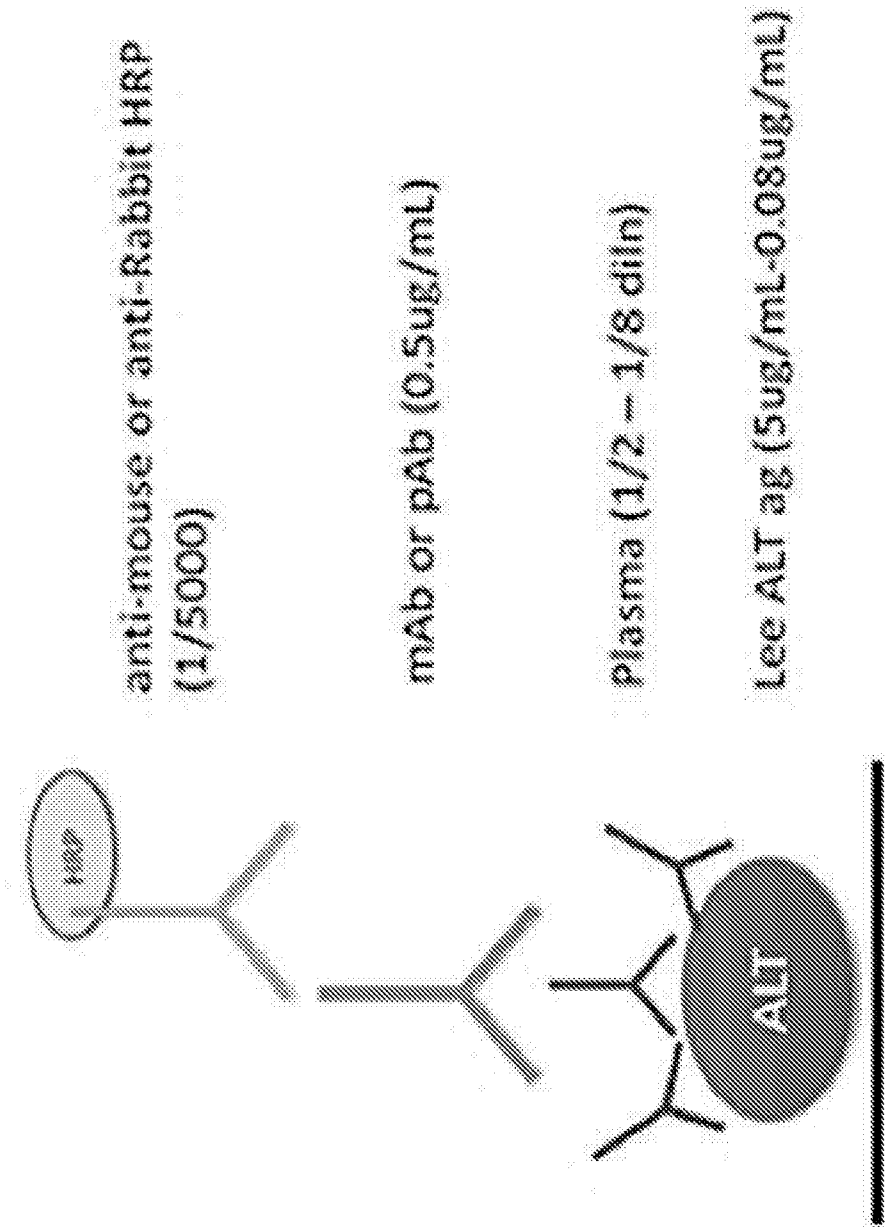


FIG. 2B

Alanine aminotransferase 1

Human versus Mouse (Mus musculus) Range: 1 to 496

Identities 433/496 (87%), Positives 459/496 (92%) Gaps 0/496 (0%)

Human	1	MASSTGDRSQAVRHGLRAKVLTLTLDGMNPRVRRVEYAVRGPIVQRALELEQEELRQGVKKPF	60
Mouse	1	MAS DR QA R+GL+ KVLTLT MNP VRRVEYAVRGPIVQRALELEQEELRQGVKKPF	60
Human	61	TEVIRANIGDAQAMGQRPITFLRQVLALCVNPDLLSSPNFPDDAKKRAERILQACGGHSL	120
Mouse	61	TEVIRANIGDAQAMGQRPITF RQVLALCV P+LLSSP+FP+DAK+RAERILQACGGHSL	120
Human	121	GAYSVSSGIQLIREDVARYIERRDGGIPADPNNVFLSTGASDAIVTVLKLLVAGEGHTRT	180
Mouse	121	GAYS+SSGIQ IREDVA+YIERRDGGIPADPNN+FLSTGASDAIVT+LKLLVAGEG RT	180
Human	181	GVLIPQYPLYSATLAELGAVQVDYYLDEERAWALDVAELHRA LGQARDHCRPRALCVI	240
Mouse	181	GVLIPQYPLYSA LAEL AVQVDYYLDEERAWALD+AEL RAL QARD C PR LCVI	240
Human	241	NPGNPTGQVQTRECIEAVIRFAFEERLFLLADEVYQDNVYAAGSQFHSFKKVL MEMGPPY	300
Mouse	241	NPGNPTGQVQTRECIEAVIRFAFEE LFL+ADEVYQDNVYA GSQFHSFKKVL EMGPPY	300
Human	301	AGQQELASFHSTSKGYMGECGFRGGYVEVVNMDAAVQQQMLKLMSVRLCPPVPGQALLDL	360
Mouse	301	A QQELASFHS SKGYMGECGFRGGYVEVVNMDA VQ+QM KLMSVRLCPPVPGQAL+ +	360
Human	361	VVSPAPTDP SFAQFQAEKQAVLAELA AAKAKLTEQVFNEAPGIS CNPVQGAMYSFPRVQL	420
Mouse	361	VVSPP P++PSF QFQAE+Q VLAELA AAKAKLTEQVFNEAPGI CNPVQGAMYSFP++QL	420
Human	421	PPRAVERAQELGLAPDMFFCLRLLEETGICVVP GSGFGQREGTYHFRMTILP PLEKLRLL	480
Mouse	421	P +AV+RAQ+LGLAPDMFFCL LLEETGICVVP GSGFGQ+EGTYHFRMTILPP+EKL R+L	480
Human	481	LEKLSRFHAKFTLEYS	496
Mouse	481	LEKL FHAKFT EYS	496

FIG. 3A

Alanine aminotransferase 1

Human versus Rat (*Rattus norvegicus*) Range: 1 to 496

Identities 436/496 (88%), Positives 463/496 (93%) Gaps 0/496 (0%)

Human	1	MASSTGDRSQAVRHGLRAKVLTLTLDGMNPRVRRVEYAVRGPIVQRALELEQEELRQGVKKPF	60
		MAS D+SQA R+GL+ KVLTLTLD MNP VRRVEYAVRGPIVQRALELEQEELRQGVKKPF	
Rat	1	MASRVNDQSQASRNGLKGKVLTLTDTMNPVRRVEYAVRGPIVQRALELEQEELRQGVKKPF	60
Human	61	TEVIRANIGDAQAMGQRPITFLRQVLALCVNPDLLSSPNFPDDAKKRAERILQACGGHSL	120
		TEVIRANIGDAQAMGQRPITF RQVLALCV P+LLSSP+FP+DAK+RAERILQACGGHSL	
Rat	61	TEVIRANIGDAQAMGQRPITFFRQVLALCVYPNLLSSPDFPEDAKKRAERILQACGGHSL	120
Human	121	GAYSVSSGIQLIREDVARYIERRDGGIPADPNNVFLSTGASDAIVTVLKLIVAGEGHTRT	180
		GAYS+SSGIQ IREDVA+YIERRDGGIPADPNN+FLSTGASDAIVT+LKLIV+GEG RT	
Rat	121	GAYSISSGIQPIREDVAQYIERRDGGIPADPNNIFLSTGASDAIVTMLKLIVSGEGRART	180
Human	181	GVLIPQYPLYSATLAELGAVQVDYLLDEERAWALDVAELHRLALGQARDHCRPRALCVI	240
		GVLIPQYPLYSA LAEL AVQVDYLLDEERAWALD+AEL RAL QARD C PR LCVI	
Rat	181	GVLIPQYPLYSAALAEALDAVQVDYLLDEERAWALDIAELRRALCQARDRCCPRVLCVI	240
Human	241	NPGNPTGQVQTRECIEAVIRFAFEERLFLLADEVYQDNVYAAGSQFHSFKKVLMMGPPY	300
		NPGNPTGQVQTRECIEAVIRFAF+E LFL+ADEVYQDNVYA GSQFHSFKKVLMMGPPY	
Rat	241	NPGNPTGQVQTRECIEAVIRFAFKEGLFLMADEVYQDNVYAEGSQFHSFKKVLMMGPPY	300
Human	301	AGQQELASFHSTSKGYMGECGFRGGYVEVVNMDAAVQQQMLKLMSVRLCPPVPGQALLDL	360
		+ QQELASFHS SKGYMGECGFRGGYVEVVNMDA VQ+QM KLMSVRLCPPVPGQAL+D+	
Rat	301	STQQELASFHSVSKGYMGECGFRGGYVEVVNMDAEVQKQMGKLMSVRLCPPVPGQALMDM	360
Human	361	VVSPPAPTDPSFAQFQAEKQAVLAELAALKLTEQVFNEAPGISCNPVQGAMYSFPRVQL	420
		VVSPP P++PSF QFQAE+Q VLAELAALKLTEQVFNEAPGI CNPVQGAMYSFP+VQL	
Rat	361	VVSPPTPSEPSFKQFQAEKQAEVLAELAALKLTEQVFNEAPGIRCNPVQGAMYSFPVQVQL	420
Human	421	PPRAVERAQELGLAPDMFFCLRLLEETGICVVPGSFGQREGTYHFRMTILPPLEKLRL	480
		P +AV+RAQELGLAPDMFFCL LLEETGICVVPGSFGQ+EGTYHFRMTILPP+EKLRL	
Rat	421	PLKAVQRAQELGLAPDMFFCLCLLEETGICVVPGSFGQREGTYHFRMTILPPMEKLRL	480
Human	481	LEKLSRFHAKFTLEYS	496
		LEKLS FHAKFT EYS	
Rat	481	LEKLSHFHAKFTHEYS	496

FIG. 3B

Alanine aminotransferase 1

Human ALT1 versus Rabbit (Oryctolagus cuniculus) ALT2 Range: 17 to 496

Identities 334/480 (70%), Positives 410/480 (85%) Gaps 17/496 (3%)

(NOTE: Rabbits do not have ALT1 homolog)

Human	17	RAKVLTLDGMNPRVRRVEYAVRGPIVQRALELEQELRQGVKKPFTEVIRANIGDAQAMGQ	76
		R ++LTL+ MNP+V+ VEYAVRGPIV +A E+E EL++G+KKPFTEVIRANIGDAQAMGQ	
Rabbit	44	REERILTLESMNPQVKAVEYAVRGPIVLKAGEIELELQRGIKKPFTEVIRANIGDAQAMGQ	103
Human	77	RPITFLRQVLALCVNPDLLSSPNFPDDAKKRAERILQACGGHSLGAYSVSSGIQLIREDV	136
		+PITFLRQV+ALC P+LL SP+FP+DAKKRA RILQACGG+SLG+YS S G+ IREDV	
Rabbit	104	QPITFLRQVMALCTYPNLLDSPSPEDAKKRARRILQACGGNSLSYSASQGVNCIREDV	163
Human	137	ARYIERRDGGIPADPNNVFLSTGASDAIVTVLKLVLVAGEGHTRTGVLIPQYPLYSATL	196
		A YI RRDGG+PADP+N++L+TGASD I T LK+LV+G G +RTGV+IPIQYPLYSA +	
Rabbit	164	AAYITRRDGGVPADPDNIYLTGASDGISTTLKILVSGGKSRGTGMIPQYPLYSAVI	223
Human	197	AELGAVQVDYYLDEERAWALDVAELHRAHGQARDHCRPRALCVINPGNPTGQVQTRECIE	256
		+EL AVQV+YYLDEE WAL+V EL RAL +A+DHC P+ LC+INPGNPTGQVQ+R+CIE	
Rabbit	224	SELDAVQVNYYLDEENCWALNVNELRRALREAKDHCDPKVLCIINPGNPTGQVQSRKCIE	283
Human	257	AVIRFAFEERLFLLADEVYQDNVYAAGSQFHSFKKVLMMEMGPPYAGQQELASFHSTSKGY	316
		VI FA+EE+LFLLADEVYQDNVY+ +FHSFKKVL EMGP Y+ ELASFHSTSKGY	
Rabbit	284	DVIHFAWEEKLFLLADEVYQDNVYSPDCRFHSFKKVLVEMGPEYSNNVELASFHSTSKGY	343
Human	317	MGECGFRGGYVEVVNMDAAVQQQMLKLMSVRLCPPVPGQALLDLVVSPAPTDPSFAQFQ	376
		MGECG+RGGY+EV+N+ ++ Q++KL+SVRLCPPV GQA +D+VV+PP P + SF QF	
Rabbit	344	MGECGYRGGYMEVINLHPEIKGQLVKLLSVRLCPPVSGQAAMDIVVNPPVPGEESFEQFI	403
Human	377	AEKQAVLAELAAKAKLTEQVFNEAPGISCNPVQGAMYSFPRVQLPPRAVERAQELGLAPD	436
		EK++VL LA KAKLTE +FN+ PGI CNP+QGAMY+FPR+ +P +AVE AQ +APD	
Rabbit	404	REKESVLGNLAKKAKLTEDLFNQVPGIHCNPLQGAMYAFPRIFIPAKAVEEAQAHKMAPD	463
Human	437	MFFCLRLLLEETGICVVPGSGFGQREGTYHFRMTILPPEKLRLLEKLSRFHAKFTLEYS	496
		MF+C++LLEETGICVVPGSGFGQREGTYHFRMTILPP+EKL+ +L+K+ FH +F +Y+	
Rabbit	464	MFYCMKLLLEETGICVVPGSGFGQREGTYHFRMTILPPEKLKTVLQKVDFHMQFLEKYA	523

FIG. 3C

A

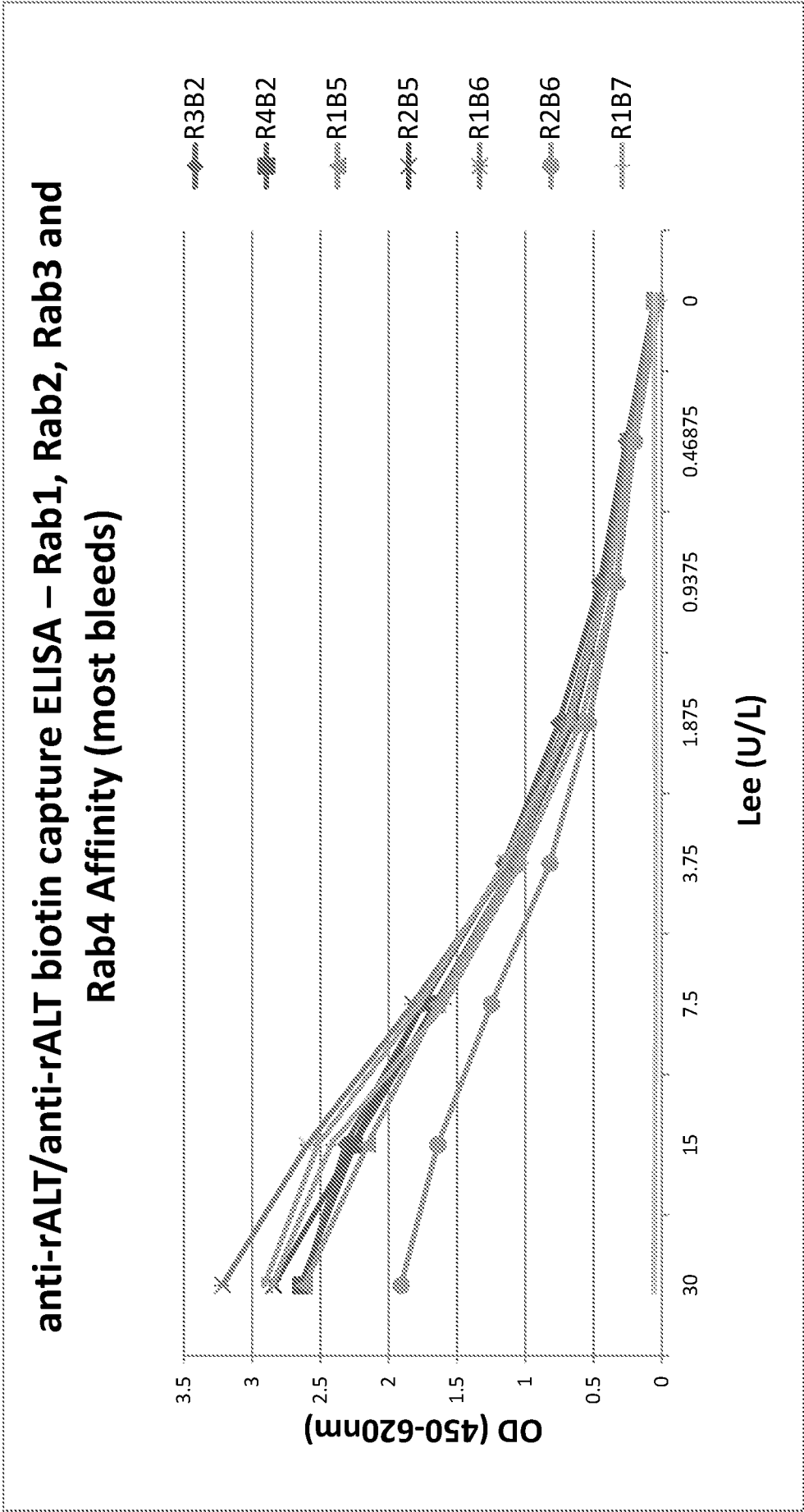


FIG. 4

B

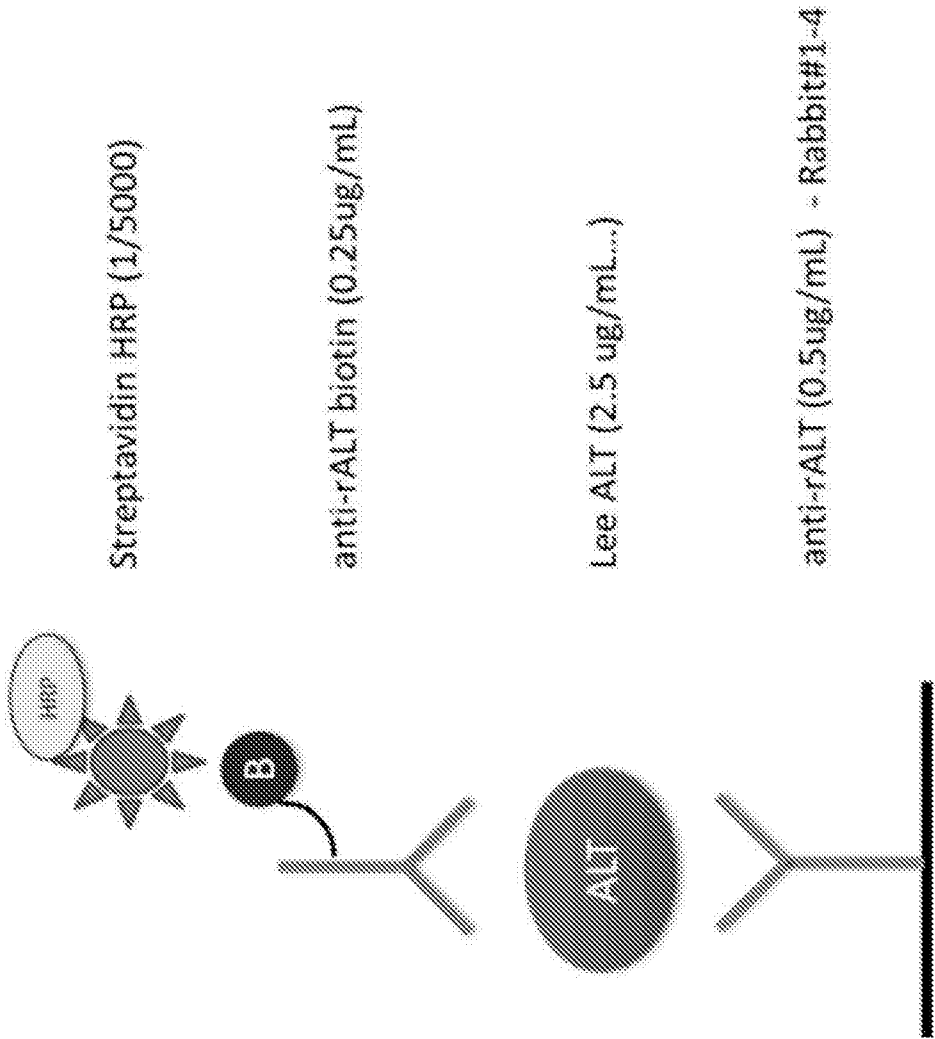


FIG. 4 (CONTINUED)

Effect of plasma in a Lee/anti-rALT (Affinity) indirect ELISA

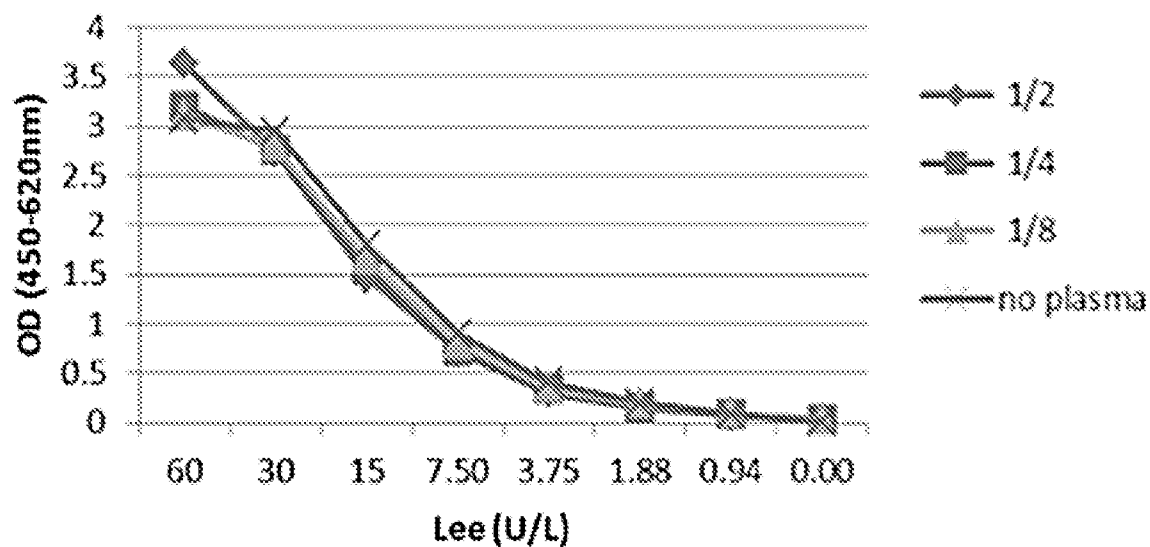


FIG. 5

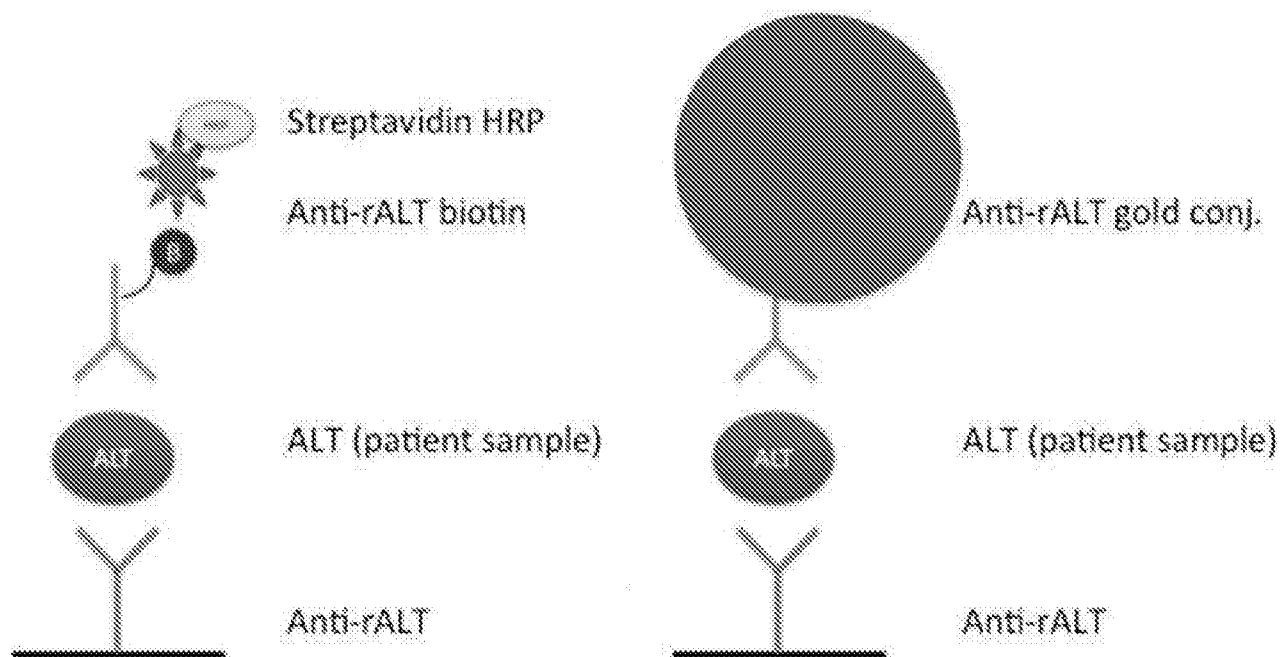


FIG. 6

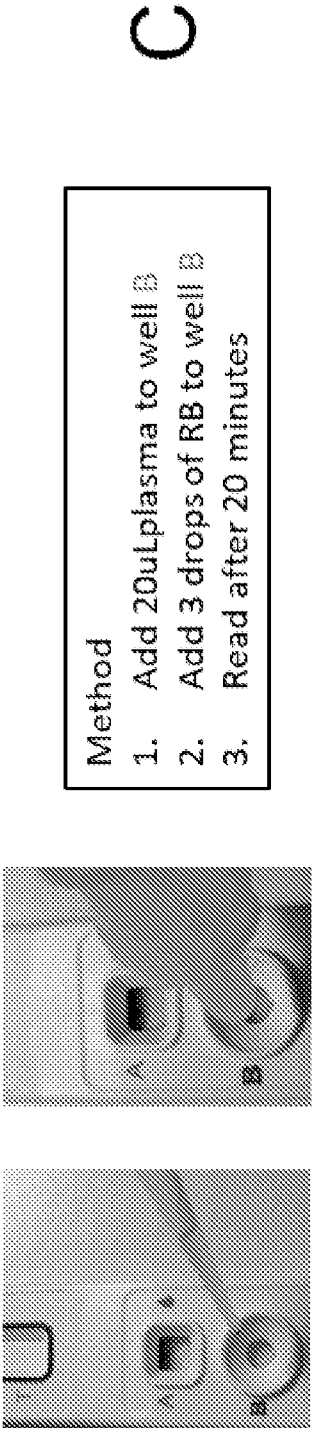
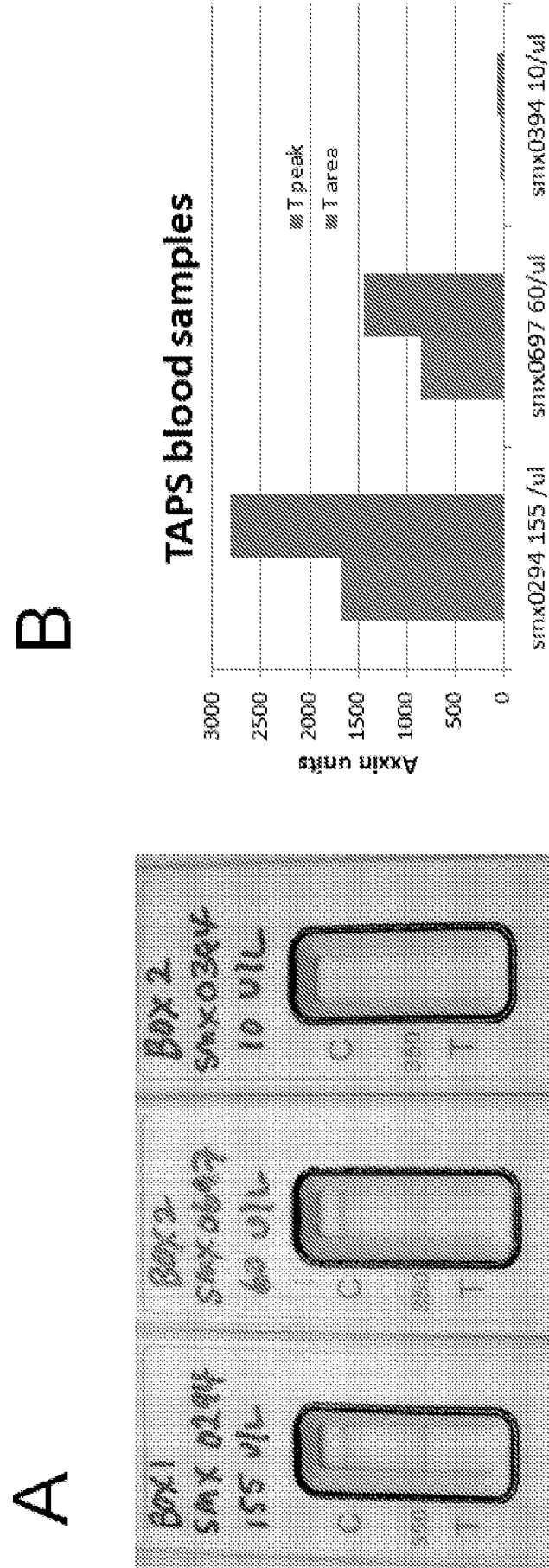


FIG. 7

D



FIG. 7(CONTINUED)

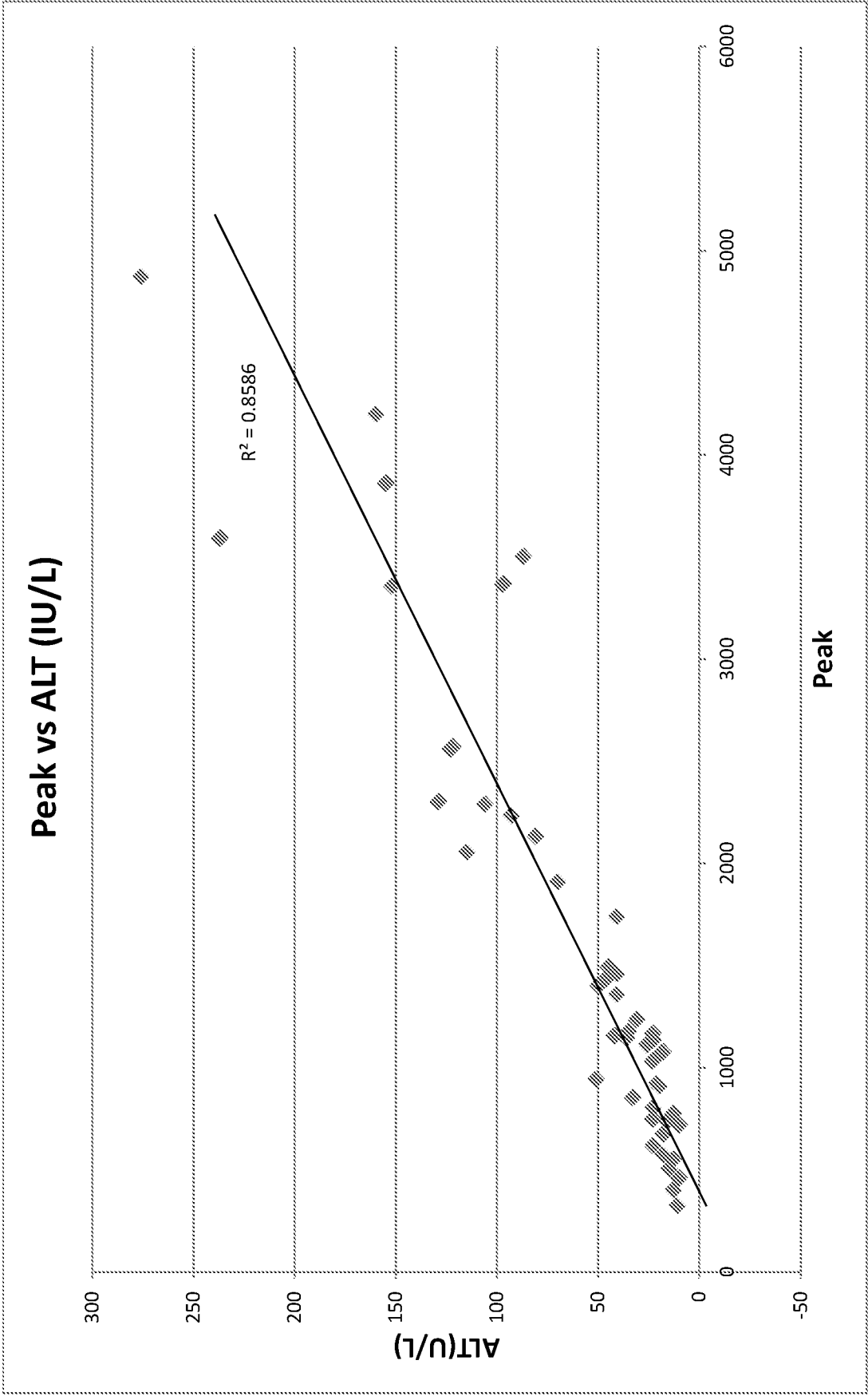


FIG. 8A

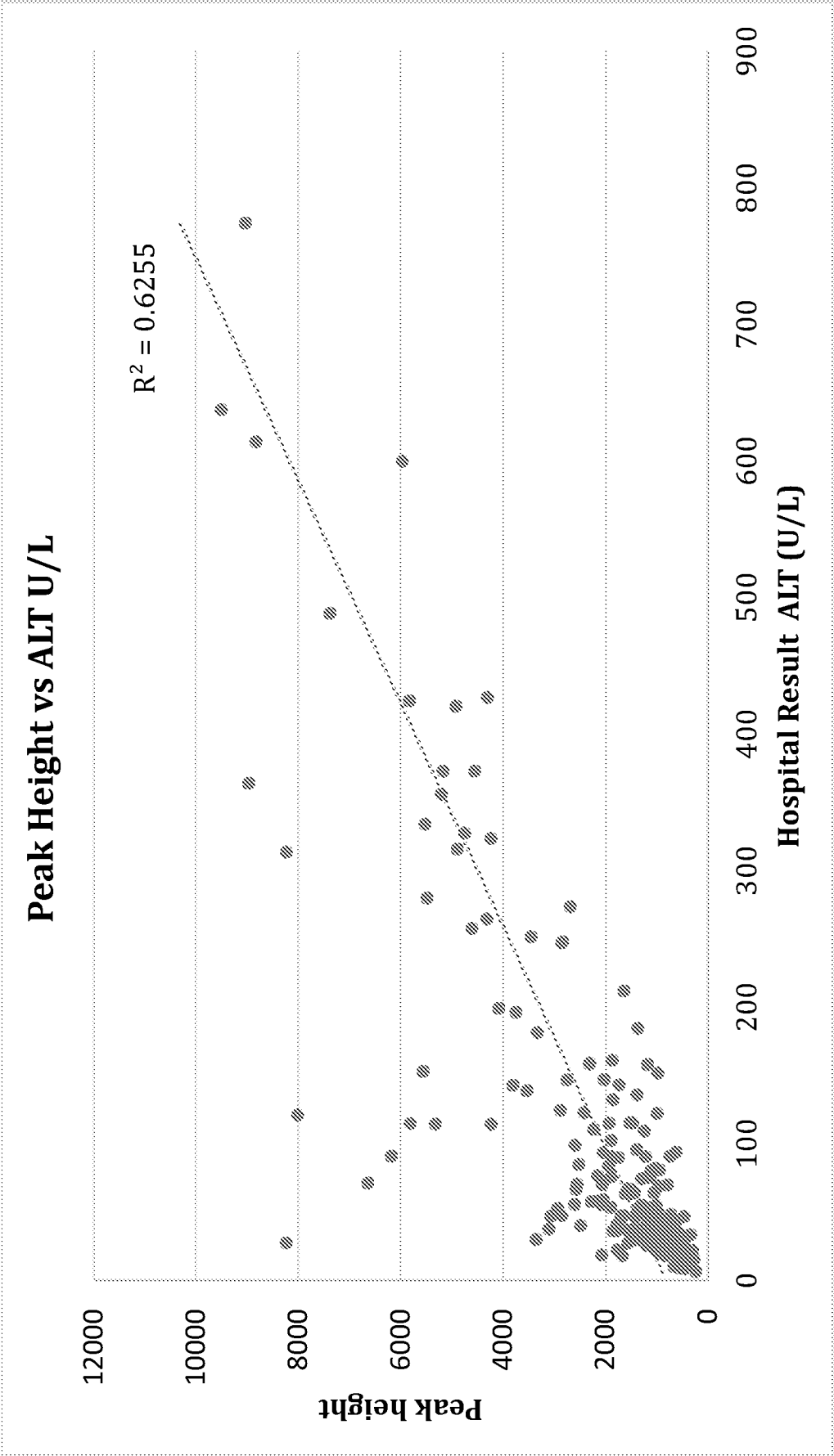
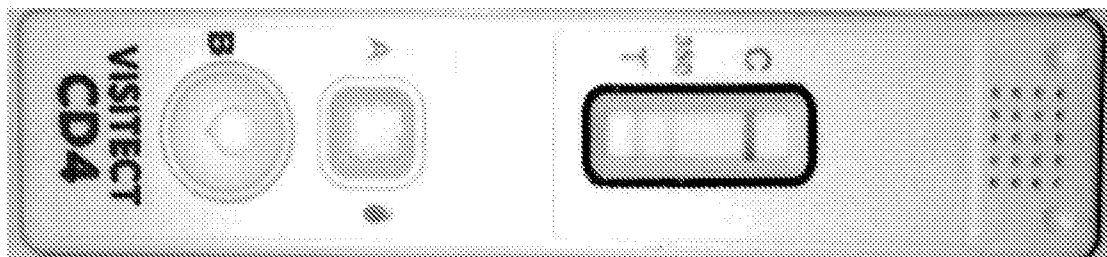
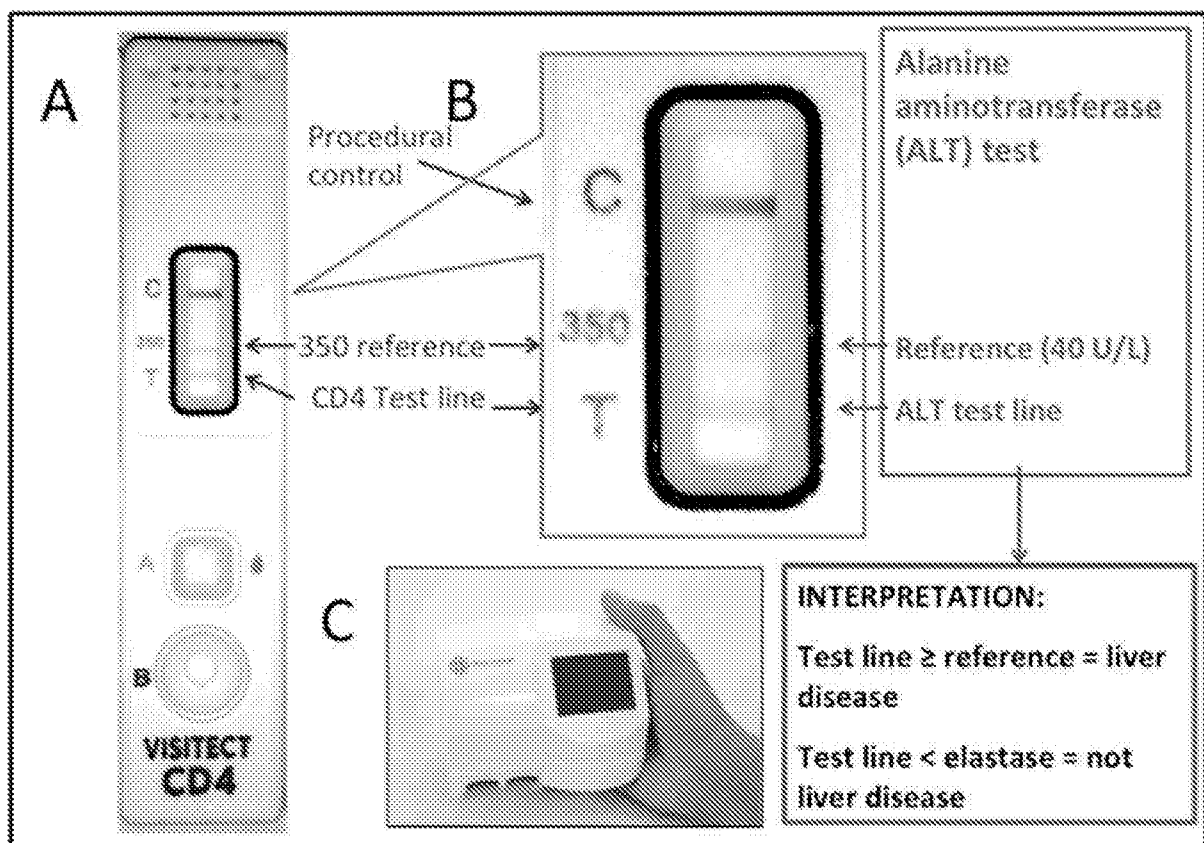


FIG. 8B



Visitect CD4 Test developed by some of the inventors, at Burnet Institute

FIG. 9

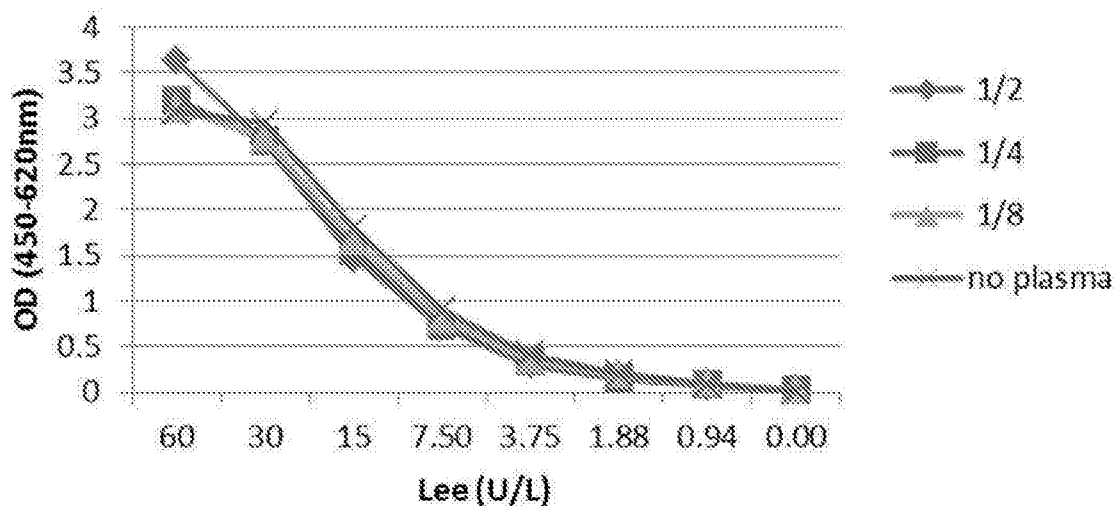


Potential format for lateral flow immunochromatographic POC test for ALT

FIG. 10



Effect of plasma in a Lee/anti-rALT (Affinity) indirect ELISA



Effect of plasma in a Lee/anti-Hu03 (Affinity) indirect ELISA

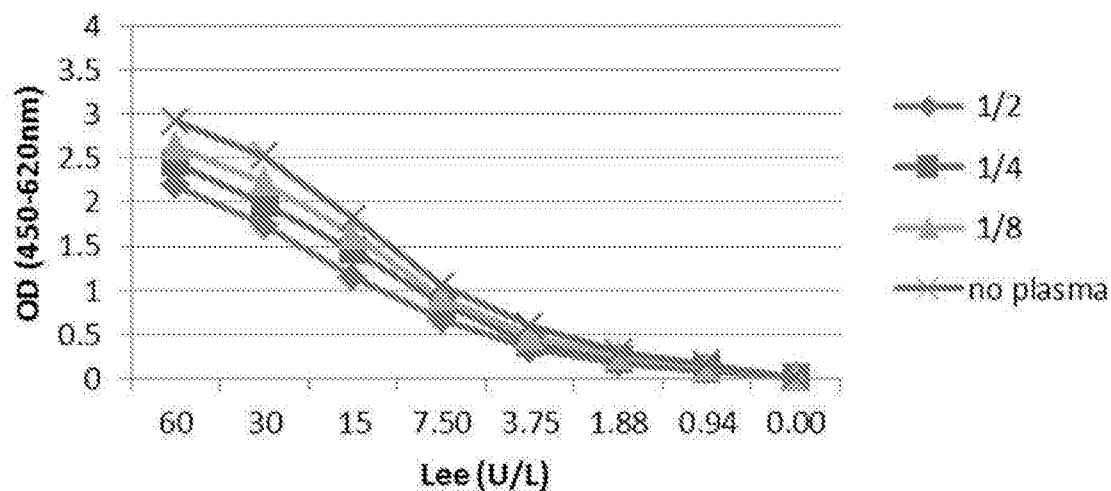
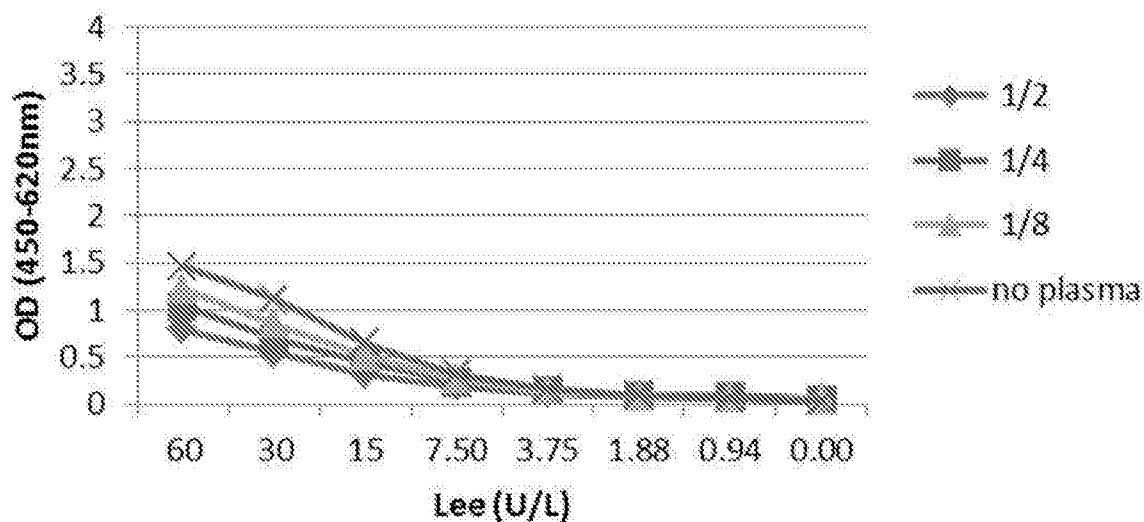
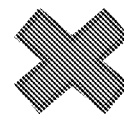


FIG. 11A

Effect of plasma in a Lee/5H2 indirect ELISA



Effect of plasma in a Lee/3H12 indirect ELISA

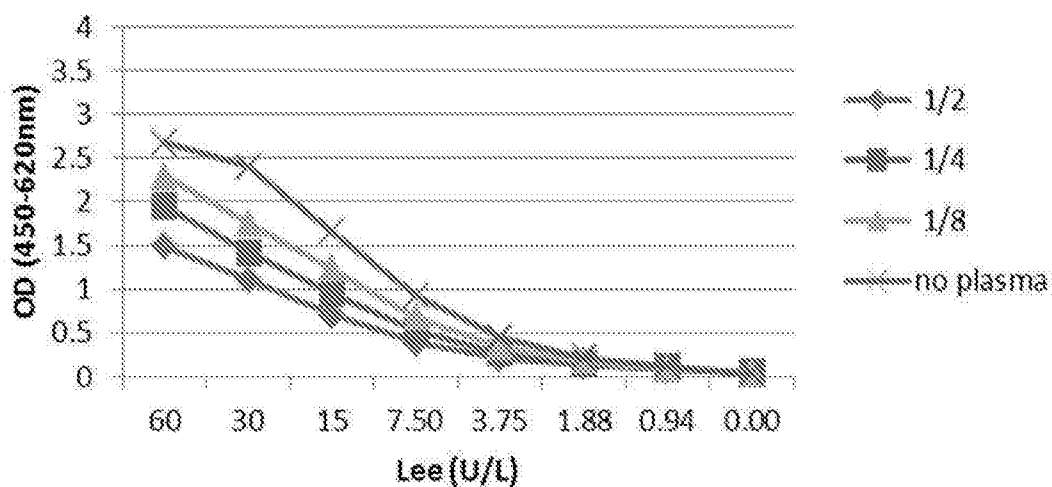
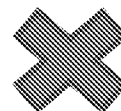
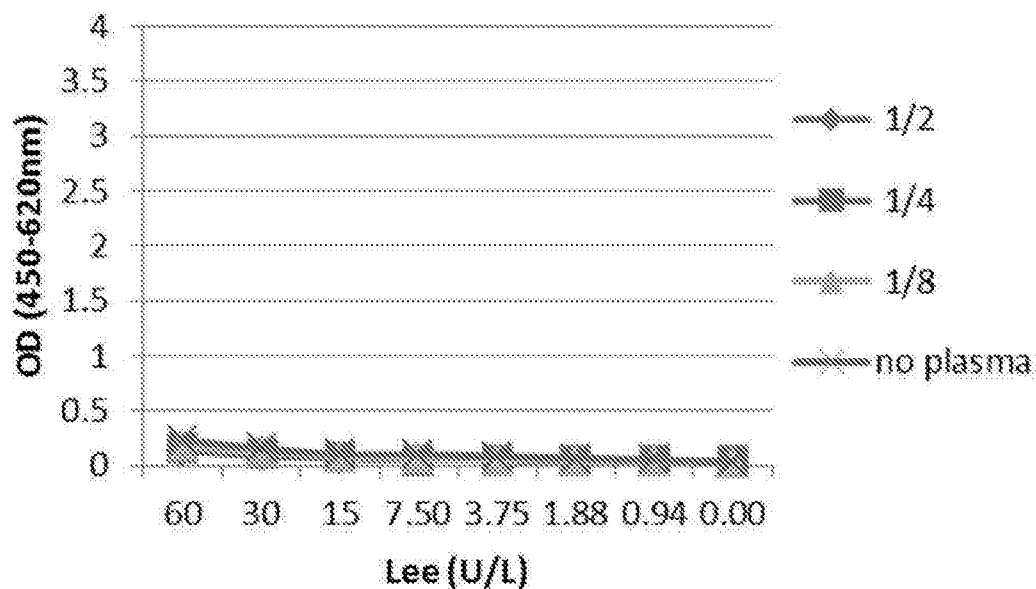
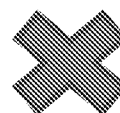


FIG. 11A (CONTINUED)

Effect of plasma in a Lee/3B4 indirect ELISA



Effect of plasma in a Lee/6B5 indirect ELISA

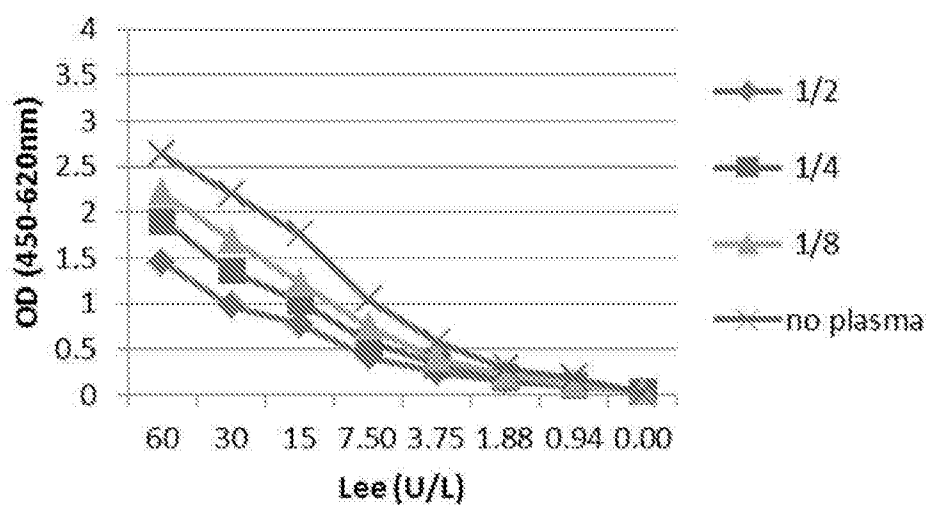
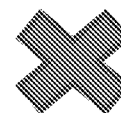


FIG. 11A (CONTINUED)

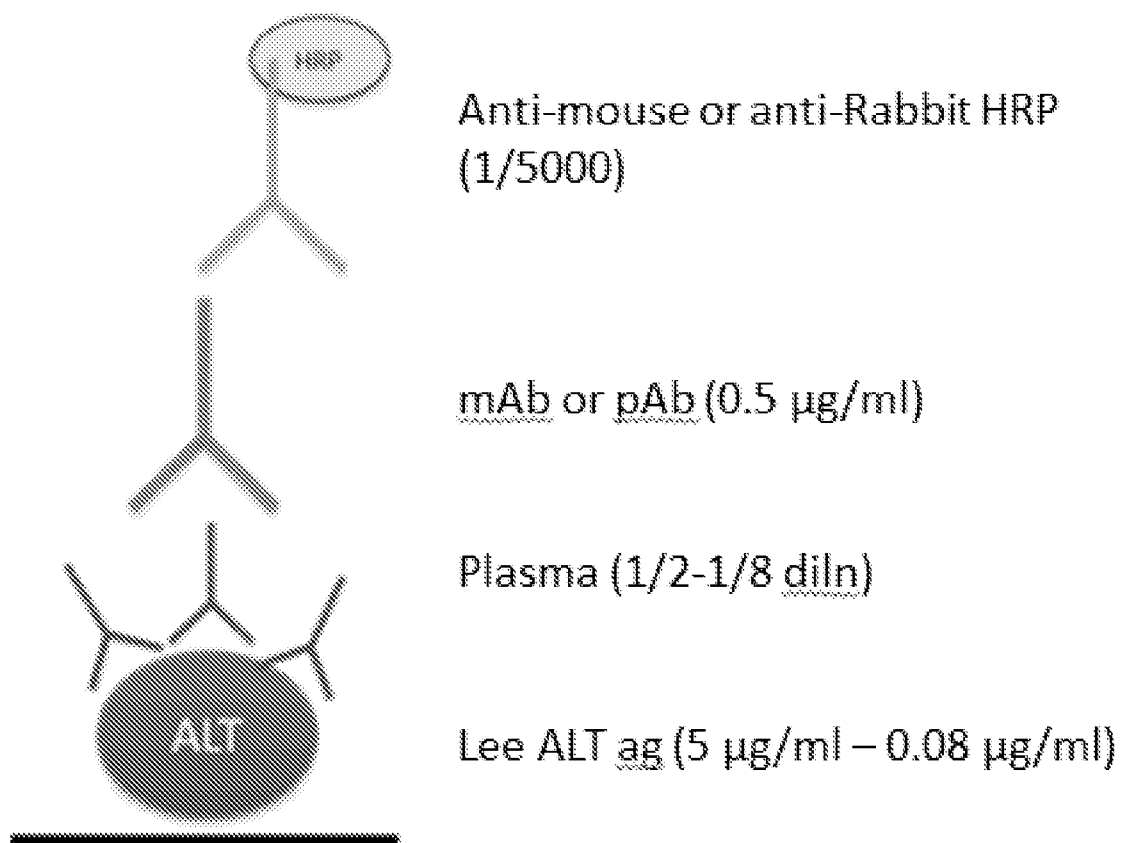
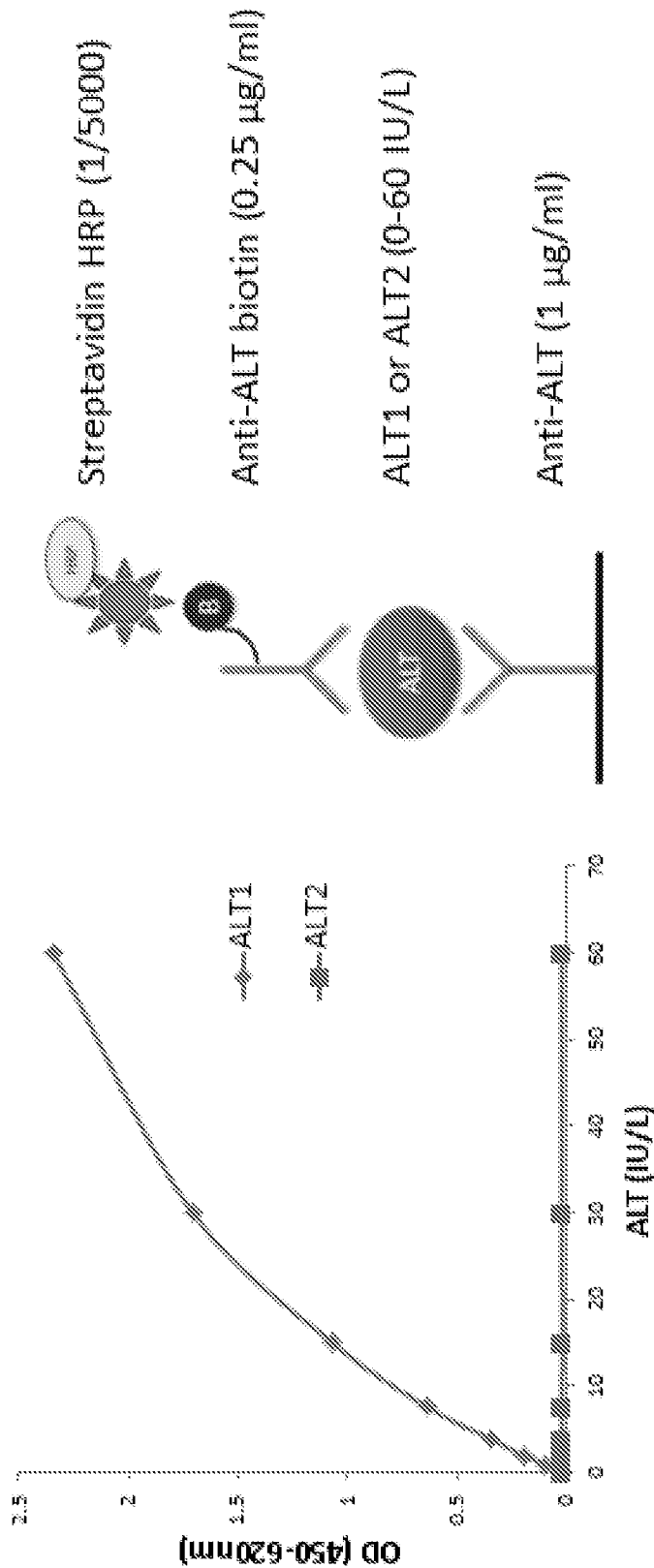


FIG. 11B

ALT capture ELISA – ALT1 vs ALT2

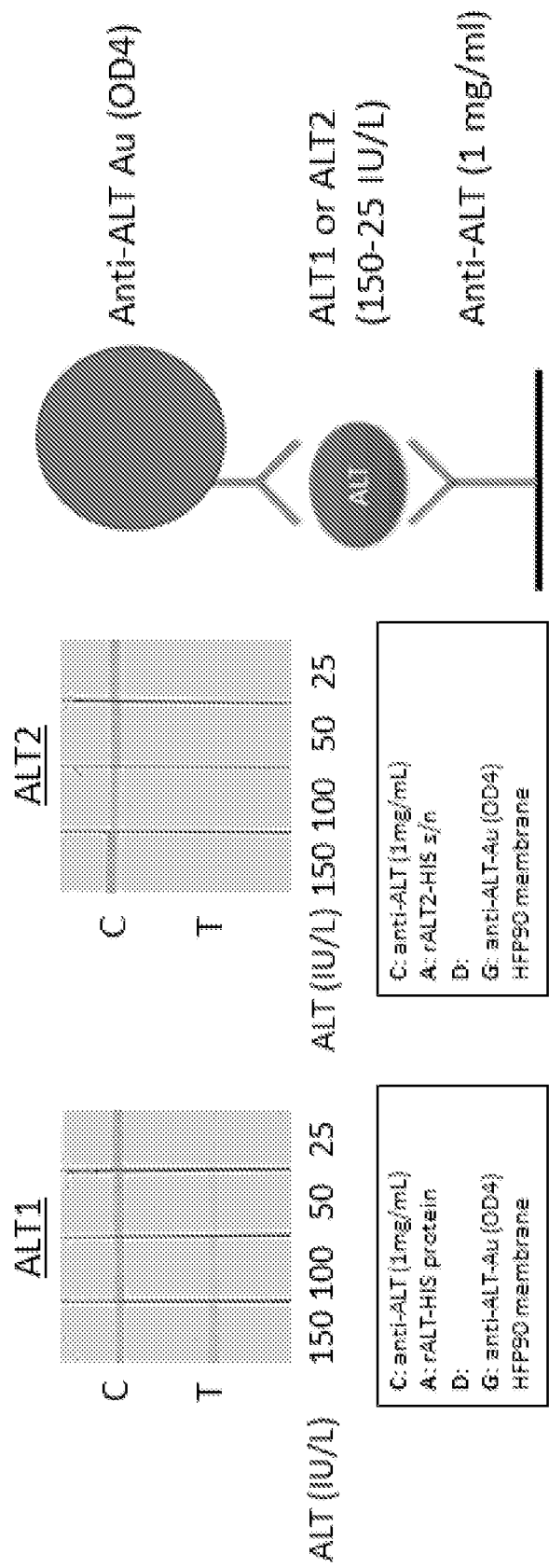
anti-ALT/anti-ALT biotin capture ELISA – ALT1 vs ALT2



Specificity of ALT1 binding assay (ELISA) for ALT1 and lack of reactivity for enzymatically equivalent levels of ALT2.

FIG. 12

ALT Rapid – ALT1 vs ALT2



Specificity of ALT1 binding assay (immunochromatographic strip) for ALT1 and lack of reactivity for enzymatically equivalent levels of ALT2.

FIG. 13