

**Table 1: New York State Molecular Oncology Proficiency Test -Summary of Results**

**Sample: NYS# L-L 1 (June 2008)**

Overall diagnosis: T-cell clone with TRB and TRG rearrangements																									
Assay	SB				PCR				RT-PCR				FISH				All methods			Method used					
	R	G	ind	Cons	R	G	ind	Cons	R	G	ind	Cons	R	G	ind	Cons	R	G	Cons	SB	PCR (qualitative)	PCR (quantitative)	RT-PCR (qualitative)	RT-PCR (quantitative)	FISH
IGH		4		G	26		G					I	2		G	0	32	G	Dako (2), home brew (2)	Biomed (6), home brew (13), IVS (7)					Vysis (1), unk (1)
IGK		2		G	1	5	G					I			I	1	7	G	home brew (2)	Biomed (5), IVS (1)					
IGL		1		I	1		I					I			I	0	2	G	home brew (1)	home brew (1)					
TRB	4			R	8		R					I			I	12	0	R	home brew (2), Dako (2)	Biomed (5), home brew (2), IVS (1)					
TRG				I	18	8	R					I			I	18	8	R		Biomed (4), home brew (19), IVS (3)					
TRD				I	1		I					I			I	0	1	I		home brew (1)					
IGH/BCL2	MBR	1		I	14		G					I			G	0	18	G	home brew (1)	Biomed (2), IVS (1), home brew (10)	home brew (1)				
	mcr			I	11		G					I			I	0	11	G		Biomed (2), IVS (1), home brew (7)	Biomed (2)				
	MBR 3'			I	2		G					I			I	0	2	G							
	MBR/mcr			I			I					I	3		G	0	3	G							Vysis (2), unk (1)
IGH/CCND1 (Bcl-1)		1		I	7		G					I	3		G	0	11	G	home brew (1)	home brew (5), other (1)	home brew (1)				Vysis (2), unk (1)
BCR/ABL1	p210	1		I			I	24				G			I	0	25	G	home brew (1)				home brew (7), IVS (1)	home brew (14), Ipsogen(1), Caspheid(1)	
	p190			I			I	19				G			I	0	19	G					home brew (7), IVS (1)	home brew (10), Ipsogen(1)	
	p210/190			I			I	8				G	4		G	0	12	G					home brew (3), Roche(2)	home brew (2), Roche(1)	Vysis (3), unk (1)
Abl kinase domain mutation				I			I	2				G			I	0	2	G					pyroseq(2)		
PML/RARA	Long			I			I	14				G			I	0	14	G					home brew (7), IVS(1)	home brew (6)	
	Short			I			I	13				G			I	0	13	G					home brew (6), IVS(1)	home brew (6)	
	Variable			I			I	6				G			I	0	6	G					home brew (4)	home brew (2)	
	Long/Short/Variable			I			I					I	3		G	0	3	G							Vysis (2), unk (1)
MYC t(8;14)				I			I					I	3		G	0	3	G							Vysis (2), unk (1)
AML1/ETO t(8;21)				I			I	6				G	3		G	0	9	G					home brew (5)	home brew (1)	Vysis (2), unk (1)
NPM/ALK t(2;5)				I			I	1				I	1		I	0	2	G					home brew (1)		Vysis (1)
IGH/BCL-6				I			I					I	2		G	0	2	G							Vysis (2)
ETV6/RUNX1 (Tel-AML1)				I			I	2				G	3		G	0	5	G					home brew (2)		Vysis (2), unk (1)
EBV				I	4		G					I			I	0	4	G		home brew (2), other (1)	home brew (1)				
KSHV/HHV8				I	3		G					I			I	0	3	G		home brew (3)					
HTLV1				I	2		G					I			I	0	2	G		home brew (2)					
CBFB INV(16)/MYH11				I			I	4				G	3		G	0	7	G					home brew (3)	home brew (1)	Vysis (2), unk (1)
E2A-PBX t(1;19) (4;11)				I			I	1				I			I	0	1	I					home brew (1)		
MLL(11q23)/ AF4 (4;11)				I			I	3				G	4		G	0	7	G					home brew (3)		Vysis (3), unk(1)
JAK 2 (V617F)				I	28		G	1				I			I	0	29	G		home brew (17), IVS(4), Ipsogen(2)	home brew(2), Eragen(2), 3rd Wave(1)		home brew (1)		
JAK 2 (Exon 12)				I			I	1				I			I	0	1	I					home brew (1)		
MPL W 515				I	1		I	1				I			I	0	2	G		pyroseq (1)			home brew (1)		
MPL S 505				I			I	1				I			I	0	1	I					home brew (1)		
FLT 3 ITD				I	14		G					I			I	0	14	G		home brew (10), IVS(3), Seegene(1)					
FLT 3 D835				I	12		G					I			I	0	12	G		home brew (8), IVS(3), Seegene(1)					
NPM1 mutation				I	8		G					I			I	0	8	G		home brew (3), IVS(1), unk(4)					
P53				I	2		G					I	3		G	0	5	G		home brew(2)					Vysis (2), unk (1)
IgVH mutation				I	4*		N*	3*				N*			I	0	7*	N*		home brew(2), IVS(1)	IVS(1)		home brew (3)		
c-kit				I	3		G					I			I	0	3	G		home brew(2), unk(1)					
Other:(MYC,RARA,ALK, Bcl-6), (HFE, RB1, etc)				I	1		I					I	1		I	0	2	I							

\* No clonal band detected

**Table 2: New York State Molecular Oncology Proficiency Test -Summary of Results**

**Sample: NYS# L-L 2 (June 2008)**

Overall diagnosis: B-cell clone with IGK rearrangement and EBV positive																									
Assay	SB				PCR				RT-PCR				FISH				All methods			Method used					
	R	G	ind	Cons	R	G	ind	Cons	R	G	ind	Cons	R	G	ind	Cons	R	G	Cons	SB	PCR (qualitative)	PCR (quantitative)	RT-PCR (qualitative)	RT-PCR (quantitative)	FISH
IGH	1	2		I	26		G					I	1	1		I	2	29	I/G/I	Dako (2), home brew (1)	Biomed (6), home brew (13), IVS (7)				Vysis (1), unk (1)
IGK		1		I	7		R					I				I	7	1	I/R	home brew (1)	Biomed (5), IVS (2)				
IGL				I	1		I					I				I	0	1	I		home brew (1)				
TRB		4		G	8		G					I				I	0	12	G	home brew (2), Dako (2)	Biomed (5), home brew (2), IVS (1)				
TRG				I	1	25	G					I				I	1	25	G		Biomed (4), home brew (19), IVS (3)				
TRD		1		I	1		I					I				I	0	2	G	home brew (1)	home brew (1)				
IGH/BCL2	MBR			I	14		G					I				I	0	14	G		Biomed (2), IVS (1), home brew (10)	home brew (1)			
	mcr			I	11		G					I				I	0	11	G		Biomed (2), IVS (1), home brew (	home brew (1)			
	MBR 3'			I	2		G					I				I	0	2	G		Biomed (2)				
	MBR/mcr			I			I					I	3			G	0	3	G						Vysis (2), unk (1)
IGH/CCND1 (Bcl-1)				I	7		G					I	3			G	0	10	G		home brew (5), other (1)	home brew (1)			Vysis (2), unk (1)
BCR/ABL1	p210	1		I			I	24				G				I	0	25	G	home brew (1)			home brew (7), IVS (1)	home brew (14), Ipsogen(1), Caspheid(1)	
	p190			I			I	19				G				I	0	19	G				home brew (7), IVS (1)	home brew (10), Ipsogen(1)	
	p210/190			I			I	8				G	3			G	0	11	G				home brew (3), Roche(2)	home brew (2), Roche(1)	Vysis (2), unk (1)
Abl kinase domain mutation				I		I	2				G				I	0	2	G				pyroseq(2)			
PML/RARA	Long			I			I	14				G				I	0	14	G				home brew (7), IVS(1)	home brew (6)	
	Short			I			I	13				G				I	0	13	G				home brew (6), IVS(1)	home brew (6)	
	Variable			I			I	6				G				I	0	6	G				home brew (4)	home brew (2)	
Long/Short/Variable			I			I					I	3			G	0	3	G						Vysis (2), unk (1)	
MYC t(8;14)				I			I					I	3			G	0	3	G						Vysis (2), unk (1)
AML1/ETO t(8;21)				I			I	6				G	3			G	0	9	G				home brew (5)	home brew (1)	Vysis (2), unk (1)
NPM/ALK t(2;5)				I			I	1				I	1			I	0	2	G				home brew (1)		Vysis (1)
IGH/BCL-6				I			I					I	2			G	0	2	G						Vysis (2)
ETV6/RUNX1 (Tel-AML1)				I			I	2				G	1			I	0	3	G				home brew (2)		Vysis (1)
EBV				I	4		R					I				I	4	0	R		home brew (2), other (1)	home brew (1)			
KSHV/HHV8				I	3		G					I				I	0	3	G		home brew (3)				
HTLV1				I	2		G					I				I	0	2	G		home brew (2)				
CBFB INV(16)/MYH11				I			I	4				G	3			G	0	7	G				home brew (3)	home brew (1)	Vysis (2), unk (1)
E2A-PBX t(1;19) (4;11)				I			I	1				I				I	0	1	I				home brew (1)		
MLL(11q23)/ AF4 (4;11)				I			I	3				G	3			G	0	6	G				home brew (3)		Vysis (2), unk (1)
JAK 2 (V617F)				I	28		G	1				I				I	0	29	G		home brew (17), IVS(4), Ipsogen(2)	home brew(2), Eragen(2), 3rd Wave(1)	home brew (1)		
JAK 2 (Exon 12)				I			I	1				I				I	0	1	I				home brew (1)		
MPL W 515				I	1		I	1				I				I	0	2	G		pyroseq(1)		home brew (1)		
MPL S 505				I			I	1				I				I	0	1	I				home brew (1)		
FLT 3 ITD				I	14		G					I				I	0	14	G		home brew (10), IVS(3), Seegene(1)				
FLT 3 D835				I	12		G					I				I	0	12	G		home brew (8), IVS(3), Seegene(1)				
NPM1 mutation				I	7		G					I				I	0	7	G		home brew (3), IVS(1), unk(3)	home brew(2)			
P53				I	2		G					I	2			G	0	4	G						Vysis (2)
IgVH mutation				I	4*		N*	3*				N*				I	0	7*	N*		home brew(2), IVS(1)	IVS(1)	home brew (3)		
c-kit				I	3		G					I				I	0	3	G		home brew(2), unk(1)				
Other:(MYC,RARA,ALK, Bcl-6), (HFE, RB1, etc)				I	1		I					I	1	1		I	1	2	I						

\* No clonal band detected

**Table 3: New York State Molecular Oncology Proficiency Test -Summary of Results**

**Sample: NYS# L-L 3 (June 2008)**

Overall diagnosis: B-cell clone with IGH and IGK rearrangements, IGH/BCL2 translocation, and IgVH mutation																									
Assay	SB				PCR				RT-PCR				FISH				All methods			Method used					
	R	G	ind	Cons	R	G	ind	Cons	R	G	ind	Cons	R	G	ind	Cons	R	G	Cons	SB	PCR (qualitative)	PCR (quantitative)	RT-PCR (qualitative)	RT-PCR (quantitative)	FISH
IGH	4			R	26			R				I	2			R	32	0	R	Dako (2), home brew (2)	Biomed (6), home brew (13), IVS (7)				Vysis (1), unk (1)
IGK	2			R	6			R				I				I	8	0	R	home brew (2)	Biomed (5), IVS (1)				
IGL		1		I		1		I				I				I	0	2	G	home brew (1)	home brew (1)				
TRB		4		G	1	7		G				I				I	1	11	G	home brew (2), Dako (2)	Biomed (5), home brew (2), IVS (1)				
TRG				I	5	20	1	G				I				I	5	20	G		Biomed (4), home brew (19), IVS (3)				
TRD		1		I		1		I				I				I	0	2	G	home brew (1)	home brew (1)				
IGH/BCL2	MBR	1		I		14		G				I				I	0	15	G	home brew (1)	Biomed (2), IVS (1), home brew (10)	home brew (1)			
	mcr			I		11		G				I				I	0	11	G		Biomed (2), IVS (1), home brew (7), Biomed (2)	home brew (1)			
	MBR 3'			I		2		G				I				I	0	2	G						
	MBR/mcr			I				I				I	3			R	3	0	R						Vysis (2), unk (1)
IGH/CCND1 (Bcl-1)		1		I		7		G			I		3		G	0	11	G	home brew (1)	home brew (5), other (1)	home brew (1)				Vysis (2), unk (1)
BCR/ABL1	p210		1		I			I	1	23		G				I	1	24	G	home brew (1)			home brew (7), IVS (1)	home brew (14), Ipsogen(1), Caspheid(1)	
	p190			I				I	1	18		G				I	1	18	G				home brew (7), IVS (1)	home brew (10), Ipsogen(1)	
	p210/190			I				I	1	7		G		3		G	1	10	G				home brew (3), Roche(2)	home brew (2), Roche(1)	Vysis (2), unk (1)
Abi kinase domain mutation			I				I		3		G				I	0	3	G				pyroseq(3)			
PML/RARA	Long			I				I		14		G				I	0	14	G				home brew (7), IVS(1)	home brew (6)	
	Short			I				I		13		G				I	0	13	G				home brew (6), IVS(1)	home brew (6)	
	Variable			I				I		6		G				I	0	6	G				home brew (4)	home brew (2)	
Long/Short/Variable			I				I				I		3		G	0	3	G						Vysis (2), unk (1)	
MYC t(8;14)			I				I				I		4		G	0	4	G							Vysis (2), unk (1)
AML1/ETO t(8;21)			I				I		6		G		3		G	0	9	G					home brew (5)	home brew (1)	Vysis (2), unk (1)
NPM/ALK t(2;5)			I				I		1		I		1		I	0	2	G					home brew (1)		Vysis (1)
IGH/BCL-6			I				I				I		2		G	0	2	G							Vysis (2)
ETV6/RUNX1 (Tel-AML1)			I				I		2		G				I	0	2	G					home brew (2)		
EBV			I		4		G				I				I	0	4	G		home brew (2), other (1)	home brew (1)				
KSHV/HHV8			I		3		G				I				I	0	3	G		home brew (3)					
HTLV1			I		2		G				I				I	0	2	G		home brew (2)					
CBFB INV(16)/MYH11			I				I		4		G		3		G	0	7	G					home brew (3)	home brew (1)	Vysis (2), unk (1)
E2A-PBX t(1;19) (4;11)			I				I		1		I				I	0	1	I					home brew (1)		
MLL(11q23)/ AF4 (4;11)			I				I		3		G		3		G	0	6	G					home brew (3)		Vysis (2), unk (1)
JAK 2 (V617F)			I		28		G		1		I				I	0	29	G		home brew (17), IVS(4), Ipsogen(2)	home brew(2), Eragen(2), 3rd Wave(1)	home brew (1)			
JAK 2 (Exon 12)			I				I		1		I				I	0	1	I					home brew (1)		
MPL W 515			I		1		I		1		I				I	0	2	G		pyroseq (1)			home brew (1)		
MPL S 505			I				I		1		I				I	0	1	I					home brew (1)		
FLT 3 ITD			I		14		G				I				I	0	14	G		home brew (10), IVS(3), Seegene(1)					
FLT 3 D835			I		12		G				I				I	0	12	G		home brew (8), IVS(3), Seegene(1)					
NPM1 mutation			I		8		G				I				I	0	8	G		home brew (3), IVS(1), unk(4)					
P53			I		2		G				I		3		G	0	5	G		home brew(2)					Vysis (2), unk (1)
IgVH mutation			I	2	2*		I	2			R				I	4	2*	R		home brew(2), IVS(1)	IVS(1)	home brew (2)			
c-kit			I		3		G				I				I	0	3	G		home brew(2), unk(1)					
Other:(MYC,RARA,ALK, Bcl-6), (HFE, RB1, etc)			I	1	1		I				I	1	1		I	2	2	I							

\* No clonal band detected

**Table 4: Summary for IGH primer mix**

Reagent Source	Mix	L/L1		L/L2		L/L3	
		R	G	R	G	R	G
BIOMED-2	A		5		5	5	
	B		6		6	6	
	C		6		6		6
	D		1		1		1
	E		2		2		2
IVS	FR 1		6		5	6	
	FR 2		7		6	7	
	FR 3		7		6	5	2
HOMEBREW	FR 1		2		2	1	1
	FR 2		8		8	7	1
	FR 3		10		10	8	2

**Table 5: Summary for IGK primer mix**

Reagent Source	Mix	L/L1		L/L2		L/L3	
		R	G	R	G	R	G
BIOMED-2	A		4	4			4
	B	1	3	4		4	
IVS	A		1		1	1	
	B		1	1		1	
HOMEBREW	A			1			
	B			1			

**Table 6: Summary for TRG primer mix**

Reagent Source	Mix	L/L1		L/L2		L/L3	
		R	G	R	G	R	G
BIOMED-2	A	4			4		4
	B		4		4	2	2
IVS	Mix 1		3	1	2		3
	Mix 2		2		2		2
HOMEBREW	V1-4	1			1		1
	V1-8	5	2		7		5
	V9		7		7	2	3
	V10		3		3		2
	V11		4		5		4
	V10,11		1		1		
	Mix 1	2	1		3		2
	Mix 2	2	1		3		2
	A	1			1		1
	B		1		1		1

**Table 7: Summary for TRB primer mix**

Reagent Source	Mix	L/L1		L/L2		L/L3	
		R	G	R	G	R	G
BIOMED-2	A		5		5		5
	B	5			5		5
	C		5		5	1	4
HOMEBREW	A		1		1		1
	B	1			1		1

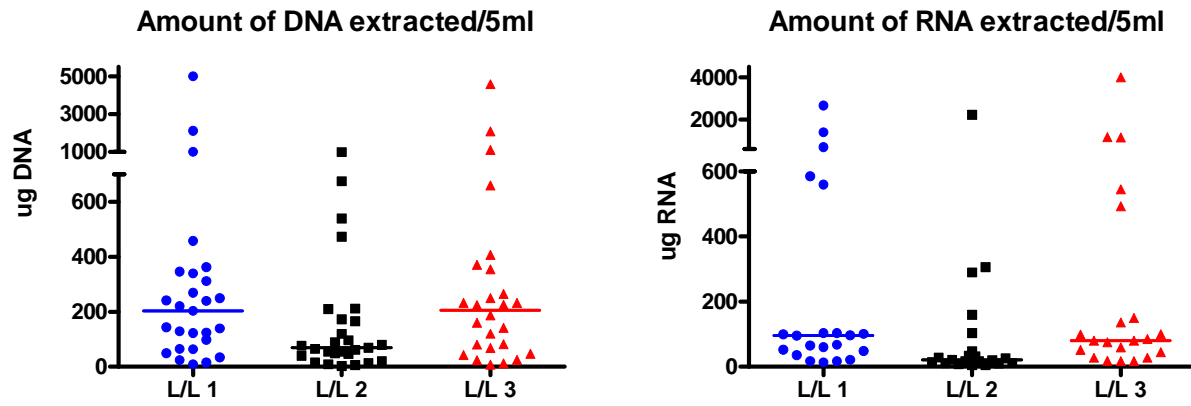


Figure 1. PT MCTM 6-08 sample DNA and RNA yields

	LL1	LL2	LL3		LL1	LL2	LL3
Yield (ug)	DNA	DNA	DNA		RNA	RNA	RNA
Median	204	70.0	206.1		96.0	21.42	80.5
Max	5004	1004	4581		2665	2224	4008
Min	9.8	3.1	7.4		14	5	17