

**The Trifecta study: comparing plasma donor-derived cell-free DNA levels
with the molecular phenotype of kidney transplant biopsies**

Philip F. Halloran^{1,2,3}, Jeff Reeve¹, Katelynn S. Madill-Thomsen^{1,3}, Zachary Demko⁴, Adam Prewett⁴, Paul Billings⁴, and the Trifecta Investigators

¹Alberta Transplant Applied Genomics Center, Edmonton, AB, Canada; ²University of Alberta, Edmonton, AB, Canada; ³Transcriptome Sciences Inc., Edmonton, AB, Canada; ⁴Natera, San Carlos, CA, USA

Table of Contents

Supplementary Table 1. Top unique genes positively correlated with %dd-cfDNA in the Trifecta Study (N=300) ordered by correlation coefficient 3

Supplementary Figure 1. Relationships between %dd-cfDNA, molecular archetype groups, and GNLY expression in N=300 samples. Dots represent biopsies and corresponding paired blood sample %dd-cfDNA results, colored by archetype cluster assignments. Regression lines (dashed) show the relationship between GNLY expression and %dd-cfDNA.4

Supplementary Table 1. Top unique genes positively correlated with %dd-cfDNA in the Trifecta Study (N=300) ordered by correlation coefficient

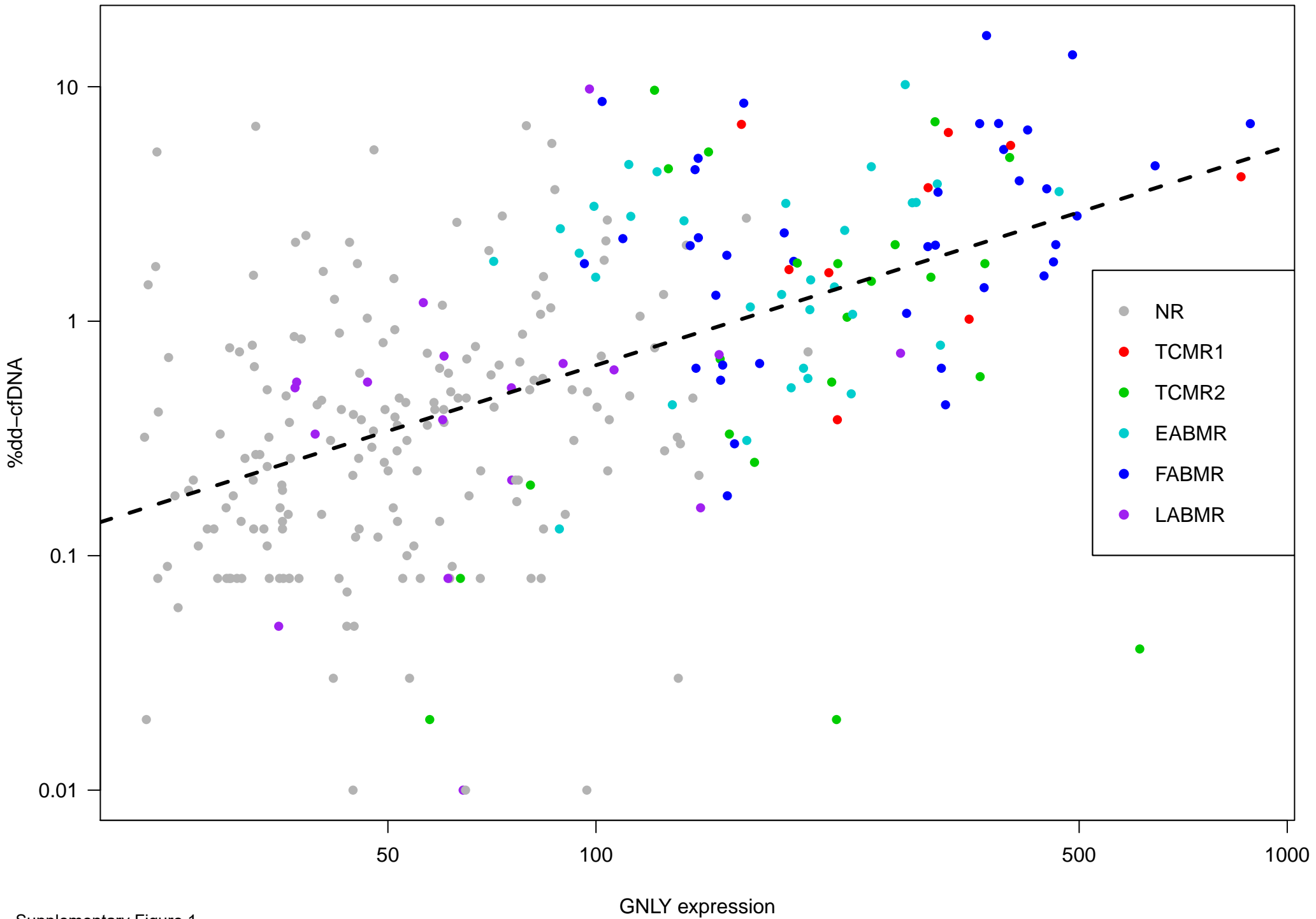
Affy ID	Gene Symbol	Gene Name	Transcript Set Annotation	Spearman correlation
11751857_a_at	GNLY ^a	granulysin	ABMR-RAT, Rej-RAT	0.56
11746954_s_at	CCL4 ^a	chemokine (C-C motif) ligand 4	ABMR-RAT,Rej-RAT	0.52
11761790_x_at	TRDC ^a	T cell receptor delta constant	ABMR-RAT,Rej-RAT	0.51
11743168_at	IDO1 ^b	indoleamine 2,3-dioxygenase 1	ABMR-RAT,GRIT3,Rej-RAT	0.51
11749245_a_at	CXCL11 ^b	chemokine (C-X-C motif) ligand 11	ABMR-RAT,GRIT3,Rej-RAT	0.50
11753484_x_at	KLRD1 ^a	killer cell lectin-like receptor subfamily D, member 1	ABMR-RAT,Rej-RAT	0.50
11729649_at	PRF1 ^a	perforin 1 (pore forming protein)	ABMR-RAT,Rej-RAT	0.50
11727116_a_at	PLA1A ^b	phospholipase A1 member A	ABMR-RAT,GRIT3,Rej-RAT	0.50
11724900_a_at	GZMB ^a	granzyme B	ABMR-RAT,Rej-RAT	0.49
11726287_a_at	WARS ^b	tryptophanyl-tRNA synthetase	ABMR-RAT,GRIT3,Rej-RAT	0.49
11733353_at	CRTAM ^a	cytotoxic and regulatory T-cell molecule	ABMR-RAT,Rej-RAT	0.49
11744660_s_at	CCL4L1 ^a	chemokine (C-C motif) ligand 4-like 1	ABMR-RAT,Rej-RAT	0.49
11752664_a_at	S1PR5 ^a	sphingosine-1-phosphate receptor 5	ABMR-RAT	0.49
11725642_at	EFHD2	EF-hand domain family member D2	Recent Injury (cIRIT)	0.48
11735394_s_at	XCL1 ^a	chemokine (C motif) ligand 1	ABMR-RAT,Rej-RAT	0.48
11719943_at	CXCL9 ^b	chemokine (C-X-C motif) ligand 9	ABMR-RAT,GRIT3,Rej-RAT	0.48
11729274_a_at	GBP5 ^b	guanylate binding protein 5	ABMR-RAT,GRIT3,Rej-RAT	0.47
11725861_a_at	MYBL1 ^a	v-myb avian myeloblastosis viral oncogene homolog-like 1	ABMR-RAT	0.47
11733953_x_at	GBP4 ^b	guanylate binding protein 4	ABMR-RAT,GRIT3,Rej-RAT	0.47
11716734_at	IRF1 ^b	interferon regulatory factor 1	ABMR-RAT,GRIT3,Rej-RAT	0.47

^a (shaded) NK cell expressed.

^b IFNG-inducible

Transcript sets are described on the home page at <https://www.ualberta.ca/medicine/institutes-centres-groups/ataqc/research/gene-lists.html>

Abbreviations: ABMR-RAT – antibody-mediated rejection-associated transcripts, Rej-RAT – all rejection-associated transcripts, GRIT3 – gamma interferon and rejection-induced transcripts.



Supplementary Figure 1