

**Supplementary Table 1c. Molecular profile differentiating *BRCA1*- from *BRCA2*-mutated NOSEs**

Probe set	Gene Symbol (HUGO)	Entrez Gene ID	Gene Description	Cytoband (HUGO)	T-Statistic	Q-Value
D28235_s_at	<i>PTGS2</i>	5743	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	1q25.2-q25.3	-8.6	0.011
L15326_s_at	<i>PTGS2</i>	5743	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	1q25.2-q25.3	-8.21	0.011
M21642_s_at	<i>SERPINC1</i>	462	serpin peptidase inhibitor, clade C (antithrombin), member 1	1q23-q25.1	-7.99	0.011
V00535_rna2_s_at	<i>IFNB1</i>	3456	interferon, beta 1, fibroblast	9p21	-7.59	0.011
V00551_f_at	<i>IFNA10</i>	3446	interferon, alpha 10	9p22	-7.11	0.016
D00003_s_at	<i>CYP3A4</i>	1576	cytochrome P450, family 3, subfamily A, polypeptide 4	7q21.1	-6.48	0.029
U59058_s_at	<i>CRYBA1</i>	1411	crystallin, beta A1	17q11.2	-6.05	0.03
Z24724_at	<i>ATP13A3</i>	79572	ATPase type 13A3	3q29	-6.01	0.03
X51441_at	<i>SAA2</i>	6289	serum amyloid A2	11p15.1-p14	-5.88	0.031
X15422_at	<i>MBL2</i>	4153	mannose-binding lectin (protein C) 2, soluble (opsonic defect)	10q11.2-q21	-5.85	0.032
D86958_at	<i>RB1CC1</i>	9821	RB1-inducible coiled-coil 1	8q11	-5.78	0.033
HG4063- HT4333_s_at		2291			-5.74	0.033
L33075_at	<i>IQGAP1</i>	8826	IQ motif containing GTPase activating protein 1	15q26.1	-5.74	0.033
U10689_f_at	<i>MAGEA5</i>	4104	melanoma antigen family A, 5	Xq28	-5.7	0.034
Z22536_at	<i>ACVR1B</i>	91	activin A receptor, type IB	12q13	-5.54	0.036
U58675_cds2_at	<i>OR3A1</i>	4994	olfactory receptor, family 3, subfamily A, member 1	17p13.3	-5.48	0.036
U43916_s_at	<i>EMP1</i>	2012	epithelial membrane protein 1	12p12.3	-5.43	0.036
HG2479- HT2575_at	<i>TCF4</i>	6925	transcription factor 4	18q21.1	-5.38	0.036
U28749_s_at	<i>HMGA2</i>	8091	high mobility group AT-hook 2	12q15	-5.33	0.036

Y11180_at	<i>TWIST1</i>	7291	twist homolog 1 (acrocephalosyndactyly 3; Saethre-Chotzen syndrome) ( <i>Drosophila</i> )	7p21.2	-5.32	0.036
J00210_rna1_at	<i>IFNA1</i>	3439	interferon, alpha 1	9p22	-5.28	0.036
X69886_s_at	<i>GK</i>	2710	glycerol kinase	Xp21.3	-5.26	0.036
L37036_s_at	<i>CXCL5</i>	6374	chemokine (C-X-C motif) ligand 5	4q12-q13	-5.26	0.036
U25975_at	<i>PAK2</i>	5062	p21 (CDKN1A)-activated kinase 2	3q29	-5.23	0.036
M81695_s_at	<i>ITGAX</i>	3687	integrin, alpha X (complement component 3 receptor 4 subunit)	16p11.2	-5.19	0.036
U84011_s_at	<i>AGL</i>	178	amylo-1, 6-glucosidase, 4-alpha-glucanotransferase (glycogen debranching enzyme, glycogen storage disease type III)	1p21	-5.18	0.036
S78693_f_at	<i>CREB1</i>	1385	cAMP responsive element binding protein 1	2q34	-5.1	0.036
L36644_at	<i>EPHA5</i>	2044	EPH receptor A5	4q13.1	-5.1	0.036
X91103_at	<i>HR44</i>	27251	Hr44 antigen		-5.1	0.036
J03242_s_at	<i>IGF2</i>	3481	insulin-like growth factor 2 (somatomedin A)	11p15.5	-5.09	0.036
HG2887- HT3031_at	<i>SOX15</i>	6665	SRY (sex determining region Y)-box 15	17p13	-5.09	0.036
U27460_at	<i>UGP2</i>	7360	UDP-glucose pyrophosphorylase 2	2p14-p13	-5.05	0.036
L17418_cds2_s_at	<i>CR1</i>	1378	complement component (3b/4b) receptor 1 (Knops blood group)	1q32	-5.03	0.036
D00408_at	<i>CYP3A7</i>	1551	cytochrome P450, family 3, subfamily A, polypeptide 7	7q21-q22.1	-5.01	0.037
HG4094- HT4364_s_at	<i>TFCP2</i>	7024	transcription factor CP2	12q13	-4.99	0.037
Z48512_at	<i>SRY</i>	6736	sex determining region Y	Yp11.3	-4.95	0.039
S68805_at	<i>GATM</i>	2628	glycine amidinotransferase (L-arginine:glycine amidinotransferase)	15q21.1	-4.93	0.039
K02777_s_at	<i>TRA@</i>	6955	T cell receptor alpha locus	14q11.2	-4.92	0.039
X83492_s_at	<i>FAS</i>	355	Fas (TNF receptor superfamily, member 6)	10q24.1	-4.88	0.04
K03189_f_at	<i>CGB</i>	1082	chorionic gonadotropin, beta polypeptide	19q13.32	-4.86	0.04
U13616_at	<i>ANK3</i>	288	ankyrin 3, node of Ranvier (ankyrin G)	10q21	-4.85	0.04
HG2271- HT2367_at	<i>FLG</i>	2312	filaggrin	1q21.3	-4.85	0.04

D00003_at	<i>CYP3A4</i>	1576	cytochrome P450, family 3, subfamily A, polypeptide 4	7q21.1	-4.81	0.041
U33880_at	<i>ITGB1</i>	3688	integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)	10p11.2	-4.8	0.041
U03858_at	<i>FLT3LG</i>	2323	fms-related tyrosine kinase 3 ligand	19q13.3	-4.79	0.041
Z22534_at	<i>ACVR1</i>	90	activin A receptor, type I	2q23-q24	-4.79	0.041
M60746_at	<i>HIST1H3E</i>	8353	histone cluster 1, H3e	6p21.3	-4.79	0.041
U12707_s_at	<i>WAS</i>	7454	Wiskott-Aldrich syndrome (eczema-thrombocytopenia)	Xp11.4-p11.21	-4.76	0.042
X00088_at	<i>HIST1H2BJ</i>	8970	histone cluster 1, H2bj	6p22.1	-4.75	0.042
D63998_at	<i>MAN2A1</i>	4124	mannosidase, alpha, class 2A, member 1	5q21-q22	-4.75	0.042
J02874_at	<i>FABP4</i>	2167	fatty acid binding protein 4, adipocyte	8q21	-4.74	0.042
X57579_s_at	<i>INHBA</i>	3624	inhibin, beta A	7p15-p13	-4.73	0.042
S69231_s_at	<i>DCT</i>	1638	dopachrome tautomerase (dopachrome delta-isomerase, tyrosine-related protein 2)	13q32	-4.72	0.042
D13638_s_at	<i>ARHGAP11A</i>	9824	Rho GTPase activating protein 11A	15q13.2	-4.69	0.043
X78711_at	<i>GK3P</i>	2713	glycerol kinase 3 pseudogene	4q32.1	-4.67	0.044
HG1686- HT4572_s_at		2552			-4.65	0.044
U73167_cds2_s_at	<i>NAT6</i>	24142	N-acetyltransferase 6	3p21.3	-4.64	0.044
J03474_at	<i>SAA2</i>	6289	serum amyloid A2	11p15.1-p14	-4.64	0.044
D17570_s_at	<i>ZPBP</i>	11055	zona pellucida binding protein	7p14.3	-4.64	0.044
X16281_at	<i>ZNF44</i>	51710	zinc finger protein 44	19p13.2	-4.62	0.044
M13994_s_at	<i>BCL2</i>	596	B-cell CLL/lymphoma 2	18q21.33	-4.61	0.044
HG1400- HT1400_s_at	<i>PCMT1</i>	5110	protein-L-isoaspartate (D-aspartate) O-methyltransferase	6q24-q25	-4.61	0.044
U02388_at	<i>CYP4F2</i>	8529	cytochrome P450, family 4, subfamily F, polypeptide 2	19pter-p13.11	-4.58	0.046
X57809_at	<i>IGL@</i>	3535	immunoglobulin lambda locus	22q11.1-q11.2	-4.57	0.046
U58675_cds1_at	<i>OR3A2</i>	4995	olfactory receptor, family 3, subfamily A, member 2	17p13.3	-4.56	0.047
X04445_ma1_s_at	<i>INHA</i>	3623	inhibin, alpha	2q33-q36	-4.54	0.047

D49728_at	<i>NR4A1</i>	3164	nuclear receptor subfamily 4, group A, member 1	12q13	-4.53	0.047
X54667_s_at	<i>CST4</i>	1472	cystatin S	20p11.21	-4.5	0.049
HG3426- HT3610_s_at	<i>ZNF124</i>	7678	zinc finger protein 124	1q44	-4.5	0.049
U79302_at	<i>TP53/11</i>	9537	tumor protein p53 inducible protein 11	11p11.2	4.5	0.049
U09813_at	<i>ATP5G3</i>	518	ATP synthase, H <sup>+</sup> transporting, mitochondrial F0 complex, subunit C3 (subunit 9)	2q31.1	4.53	0.047
M64925_at	<i>MPP1</i>	4354	membrane protein, palmitoylated 1, 55kDa	Xq28	4.53	0.047
U16660_at	<i>ECH1</i>	1891	enoyl Coenzyme A hydratase 1, peroxisomal	19q13.1	4.55	0.047
U24169_at	<i>JTV1</i>	7965	JTV1 gene	7p22	4.61	0.044
D28589_at	<i>KIAA0114</i>	57291	KIAA0114	4q12	4.65	0.044
U43177_at	<i>UCN</i>	7349	urocortin	2p23-p21	4.65	0.044
X02596_at	<i>BCR</i>	613	breakpoint cluster region	22q11	4.68	0.043
U11292_at	<i>PSME3</i>	10197	proteasome (prosome, macropain) activator subunit 3 (PA28 gamma; Ki)	17q21	4.69	0.043
U90426_at	<i>DDX39</i>	10212	DEAD (Asp-Glu-Ala-Asp) box polypeptide 39	19p13.12	4.7	0.043
M86934_at	<i>HDHD1A</i>	8226	haloacid dehalogenase-like hydrolase domain containing 1A	Xp22.32	4.71	0.043
X17620_at	<i>NME1</i>	4830	non-metastatic cells 1, protein (NM23A) expressed in	17q21.3	4.72	0.042
U65579_at	<i>NDUFS8</i>	4728	NADH dehydrogenase (ubiquinone) Fe-S protein 8, 23kDa (NADH-coenzyme Q reductase)	11q13	4.75	0.042
M94345_at	<i>CAPG</i>	822	capping protein (actin filament), gelsolin-like	2p11.2	4.8	0.041
L37936_at	<i>TSFM</i>	10102	Ts translation elongation factor, mitochondrial	12q13-q14	4.82	0.041
U03100_at	<i>CTNNA1</i>	1495	catenin (cadherin-associated protein), alpha 1, 102kDa	5q31	4.86	0.04
U79265_at	<i>B3GNTL1</i>	146712	UDP-GlcNAc:betaGal beta-1,3-N-acetylglucosaminyltransferase-like 1	17q25.3	4.89	0.04
U23143_at	<i>SHMT2</i>	6472	serine hydroxymethyltransferase 2 (mitochondrial)	12q12-q14	4.89	0.04
D83783_at	<i>MED12</i>	9968	mediator complex subunit 12	Xq13	4.91	0.039
M62302_at	<i>GDF1</i>	2657	growth differentiation factor 1	19p12	4.97	0.037

U09584_at	<i>TMEM115</i>	11070	transmembrane protein 115	3p21.3	4.98	0.037
U32645_at	<i>ELF4</i>	2000	E74-like factor 4 (ets domain transcription factor)	Xq26	4.99	0.037
U01160_at	<i>TSPAN31</i>	6302	tetraspanin 31	12q13.3	5.05	0.036
M21142_cds2_s_at	<i>GNAS</i>	2778	GNAS complex locus	20q13.3	5.06	0.036
L33842_rna1_at	<i>IMPDH2</i>	3615	IMP (inosine monophosphate) dehydrogenase 2	3p21.2	5.06	0.036
D26068_at	<i>EIF4H</i>	7458	eukaryotic translation initiation factor 4H	7q11.23	5.07	0.036
U69645_at	<i>ZNF32</i>	7580	zinc finger protein 32	10q22-q25	5.11	0.036
U90911_at	<i>WIPF2</i>	147179	WAS/WASL interacting protein family, member 2	17q21.2	5.14	0.036
U37673_at	<i>AP3B2</i>	8120	adaptor-related protein complex 3, beta 2 subunit	15q	5.16	0.036
M29971_at	<i>MGMT</i>	4255	O-6-methylguanine-DNA methyltransferase	10q26	5.16	0.036
HG1869- HT1904_at	<i>MEA1</i>	4201	male-enhanced antigen 1	6p21.3-p21.1	5.19	0.036
M63391_rna1_at	<i>DES</i>	1674	desmin	2q35	5.22	0.036
M57730_at	<i>EFNA1</i>	1942	ephrin-A1	1q21-q22	5.22	0.036
L41690_at	<i>TRADD</i>	8717	TNFRSF1A-associated via death domain	16q22	5.23	0.036
L41816_at	<i>CAMK1</i>	8536	calcium/calmodulin-dependent protein kinase I	3p25.3	5.24	0.036
L37127_at	<i>POLR2J</i>	5439	polymerase (RNA) II (DNA directed) polypeptide J, 13.3kDa	7q22.1	5.24	0.036
U10868_at	<i>ALDH3B1</i>	221	aldehyde dehydrogenase 3 family, member B1	11q13	5.27	0.036
U04811_at	<i>TRO</i>	7216	trophinin	Xp11.22- p11.21	5.28	0.036
U65404_at	<i>KLF1</i>	10661	Kruppel-like factor 1 (erythroid)	19p13.13- p13.12	5.3	0.036
U20657_at	<i>USP4</i>	7375	ubiquitin specific peptidase 4 (proto-oncogene)	3p21.3	5.31	0.036
U14968_at	<i>RPL27A</i>	6157	ribosomal protein L27a	11p15	5.4	0.036
M62402_at	<i>IGFBP6</i>	3489	insulin-like growth factor binding protein 6	12q13	5.42	0.036
M69039_at	<i>C1QBP</i>	708	complement component 1, q subcomponent binding protein	17p13.3	5.42	0.036
M74491_at	<i>ARF3</i>	377	ADP-ribosylation factor 3	12q13	5.47	0.036

X56997_rna1_at	<i>UBA52</i>	7311	ubiquitin A-52 residue ribosomal protein fusion product 1	19p13.1-p12	5.48	0.036
U97502_rna1_at	<i>BTN3A2</i>	11118	butyrophilin, subfamily 3, member A2	6p22.1	5.51	0.036
U40998_at	<i>UNC119</i>	9094	unc-119 homolog (C. elegans)	17q11.2	5.57	0.036
M58297_at	<i>MZF1</i>	7593	myeloid zinc finger 1	19q13.2-q13.4	5.58	0.036
D82348_at	<i>ATIC</i>	471	5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase	2q35	5.59	0.036
M33197_3_at	<i>GAPDH</i>	2597	glyceraldehyde-3-phosphate dehydrogenase	12p13	5.89	0.031
U44772_at	<i>PPT1</i>	5538	palmitoyl-protein thioesterase 1 (ceroid-lipofuscinosis, neuronal 1, infantile)	1p32	5.97	0.03
U94592_at	<i>UCP2</i>	7351	uncoupling protein 2 (mitochondrial, proton carrier)	11q13	5.99	0.03
U73514_at	<i>HSD17B10</i>	3028	hydroxysteroid (17-beta) dehydrogenase 10	Xp11.2	6	0.03
U94585_at	<i>DPF2</i>	5977	D4, zinc and double PHD fingers family 2	11q13	6.08	0.03
U33849_at	<i>PCSK7</i>	9159	proprotein convertase subtilisin/kexin type 7	11q23-q24	6.17	0.03
U25956_at	<i>SELPLG</i>	6404	selectin P ligand	12q24	6.19	0.03
M63379_at	<i>CLU</i>	1191	clusterin	8p21-p12	6.31	0.029
X13973_at	<i>RNH1</i>	6050	ribonuclease/angiogenin inhibitor 1	11p15.5	6.33	0.029
J02888_at	<i>NQO2</i>	4835	NAD(P)H dehydrogenase, quinone 2	6pter-q12	6.35	0.029
U68019_at	<i>SMAD3</i>	4088	SMAD family member 3	15q22.33	6.35	0.029
U41371_at	<i>SF3B2</i>	10992	splicing factor 3b, subunit 2, 145kDa	11q13.1	7.18	0.016
U43286_at	<i>SEPHS2</i>	22928	selenophosphate synthetase 2	16p11.2	7.71	0.011
S74728_at	<i>ALDH7A1</i>	501	aldehyde dehydrogenase 7 family, member A1	5q31	7.82	0.011
X76057_at	<i>MPI</i>	4351	mannose phosphate isomerase	15q22-qter	8.48	0.011

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