

Table S1

	Old vs young			
	Symbol	Refseq	Fold Change	p-value
Apoptosis	Atm	NM_007499	1.14	0.2595
	Brca1	NM_009764	1.21	0.2001
	Mbd4	NM_010774	1.17	0.0576
	Mgmt	NM_008598	1.03	0.4526
	Mlh1	NM_026810	1.11	0.0717
	Prkdc	NM_011159	1.18	0.1651
	Rad21	NM_009009	0.92	0.1796
	Trp53	NM_011640	0.99	0.7870
Cell Cycle Arrest	Chek1	NM_007691	1.04	0.4769
	Gadd45a	NM_007836	0.85	0.0673
	Hus1	NM_008316	1.04	0.4726
	Msh2	NM_008628	1.03	0.2917
Cell Cycle Checkpoint	Brca2	NM_009765	1.10	0.3299
	Pinx1	NM_028228	1.04	0.5702
	Rad1	NM_011232	1.00	0.9954
	Rad9	NM_011237	1.04	0.7445
	Smc1a	NM_019710	1.09	0.1296
Cell Cycle Related	Atm	NM_007499	1.14	0.2595
	Chaf1a	NM_013733	1.03	0.8364
	Rad21	NM_009009	0.92	0.1796
	Rbbp4	NM_009030	0.94	0.4231
	Smc3	NM_007790	0.99	0.8595
	Terf1	NM_009352	1.09	0.3338
	Tlk1	NM_172664	1.04	0.4788
Double-Strand Break repair	Brca1	NM_009764	1.21	0.2001
	Brca2	NM_009765	1.10	0.3299
	Dmc1	NM_010059	1.20	0.5257
	Fen1	NM_007999	1.07	0.3573
	H2afx	NM_010436	0.97	0.6551
	Lig4	NM_176953	0.86	0.0768
	Mre11a	NM_018736	1.08	0.3193
	Prkdc	NM_011159	1.18	0.1651
	Rad21	NM_009009	0.92	0.1796
	Rad50	NM_009012	1.11	0.0594
	Rad51	NM_011234	1.08	0.3403
	Rad51c	NM_053269	1.00	0.9577
	Rad51l1	NM_009014	1.16	0.1862
	Rad51l3	NM_011235	1.08	0.4290

	Rad52	NM_011236	1.15	0.0933
	Rad54l	NM_009015	0.88	0.2520
	Xrcc2	NM_020570	1.09	0.1849
	Xrcc3	NM_028875	1.03	0.7082
	Xrcc4	NM_028012	0.98	0.8000
	Xrcc5	NM_009533	0.88	0.1674
	Xrcc6	NM_010247	1.01	0.7755
Damaged DNA Binding	Brca1	NM_009764	1.21	0.2001
	Ercc1	NM_007948	0.96	0.5727
	H2afx	NM_010436	0.97	0.6551
	Msh2	NM_008628	1.03	0.2917
	Msh3	NM_010829	1.06	0.2798
	Rad1	NM_011232	1.00	0.9954
	Rad51	NM_011234	1.08	0.3403
	Rad51c	NM_053269	1.00	0.9577
	Rad51l1	NM_009014	1.16	0.1862
	Trpc2	NM_011644	1.24	0.1598
	Xpa	NM_011728	1.10	0.1260
	Xpc	NM_009531	0.96	0.7057
	Xrcc1	NM_009532	0.89	0.0354
	Xrcc2	NM_020570	1.09	0.1849
	Xrcc3	NM_028875	1.03	0.7082
Base Excision Repair	Apex1	NM_009687	1.05	0.5033
	Apex2	NM_029943	1.13	0.0219
	Ccno	NM_001081062	1.37	0.1940
	Lig3	NM_010716	1.03	0.6610
	Mbd4	NM_010774	1.17	0.0576
	Mpg	NM_010822	1.02	0.5221
	Mutyh	NM_133250	1.08	0.2340
	Neil1	NM_028347	0.96	0.5825
	Neil2	NM_201610	1.14	0.6499
	Neil3	NM_146208	0.86	0.1348
	Nthl1	NM_008743	1.04	0.7094
	Ogg1	NM_010957	1.04	0.6372
	Parp1	NM_007415	0.99	0.7098
	Parp2	NM_009632	1.14	0.1927
	Parp3	NM_145619	1.28	0.3461
	Polb	NM_011130	0.86	0.0306
	Smug1	NM_027885	0.95	0.4557
	Tdg	NM_011561	0.95	0.5535
	Ung	NM_011677	1.06	0.4679
Xrcc1	NM_009532	0.89	0.0354	
Nucleotide-excision Repair	Atxn3	NM_029705	0.95	0.3230

	Brip1	NM_178309	1.03	0.6550
	Ccnh	NM_023243	0.98	0.7194
	Cdk7	NM_009874	0.80	0.1612
	Dclre1a	NM_018831	1.23	0.1280
	Ddb1	NM_015735	0.85	0.0348
	Ddb2	NM_028119	1.13	0.2722
	Ercc1	NM_007948	0.96	0.5727
	Ercc2	NM_007949	1.04	0.5775
	Ercc3	NM_133658	0.89	0.2093
	Ercc4	NM_015769	1.11	0.1298
	Ercc5	NM_011729	0.90	0.1929
	Ercc6	NM_001081221	0.72	0.2485
	Ercc8	NM_028042	0.92	0.6078
	Fancc	NM_007985	1.10	0.2320
	Lig1	NM_010715	1.02	0.4081
	Mms19	NM_028152	0.97	0.6422
	Nthl1	NM_008743	1.04	0.7094
	Pnkp	NM_021549	0.91	0.1243
	Poll	NM_020032	0.92	0.2330
	Rad23a	NM_009010	1.03	0.6359
	Rad23b	NM_009011	1.15	0.2510
	Rpa1	NM_026653	1.05	0.4996
	Rpa3	NM_026632	0.93	0.2431
	Slk	NM_009289	1.08	0.0424
	Xab2	NM_026156	1.01	0.8596
	Xpa	NM_011728	1.10	0.1260
	Xpc	NM_009531	0.96	0.7057
Mismatch Repair	Mlh1	NM_026810	1.11	0.0717
	Mlh3	NM_175337	1.15	0.0109
	Msh2	NM_008628	1.03	0.2917
	Msh3	NM_010829	1.06	0.2798
	Msh4	NM_031870	1.50	0.2275
	Msh5	NM_013600	0.91	0.2441
	Msh6	NM_010830	0.90	0.1180
	Pms1	NM_153556	1.08	0.1300
	Pms2	NM_008886	1.21	0.0202
	Pold3	NM_133692	1.14	0.0164
	Trex1	NM_011637	1.42	0.0236
DNA repair Related	Atm	NM_007499	1.14	0.2595
	Atr	NM_019864	0.85	0.3628
	Atrx	NM_009530	1.13	0.3379
	Chaf1a	NM_013733	1.03	0.8364
	Cry2	NM_009963	1.09	0.2835

Exo1	NM_012012	0.58	0.3763
Fancg	NM_053081	1.00	0.9358
Fen1	NM_007999	1.07	0.3573
Gtf2h1	NM_008186	1.09	0.1117
Gtf2h2	NM_022011	1.06	0.3269
Lig1	NM_010715	1.02	0.4081
Mgmt	NM_008598	1.03	0.4526
Mif	NM_010798	1.03	0.6745
Pold1	NM_011131	1.10	0.3742
Pole	NM_011132	1.04	0.5916
Polh	NM_030715	1.01	0.5991
Poli	NM_011972	1.06	0.5399
Polk	NM_012048	1.15	0.1116
Pttg1	NM_013917	1.64	0.0109
Rad18	NM_021385	1.06	0.3365
Rad21	NM_009009	0.92	0.1796
Rad50	NM_009012	1.11	0.0594
Rad9	NM_011237	1.04	0.7445
Rad9b	NM_144912	1.21	0.1261
Rbbp4	NM_009030	0.94	0.4231
Rbm4	NM_009032	0.94	0.1597
Rev1	NM_019570	1.11	0.3661
Rfc1	NM_011258	0.98	0.7513
Smc1a	NM_019710	1.09	0.1296
Smc3	NM_007790	0.99	0.8595
Srd5a2	NM_053188	0.90	0.4235
Sumo1	NM_009460	1.07	0.1292
Tdg	NM_011561	0.95	0.5535
Top3a	NM_009410	2.35	0.3662
Top3b	NM_011624	0.92	0.2535
Ube2a	NM_019668	1.08	0.3856
Ung	NM_011677	1.06	0.4679
Wrn	NM_011721	1.15	0.0140
Wrnip1	NM_030215	1.03	0.7933
Xrcc6bp1	NM_026858	0.86	0.3459
Xrn2	NM_011917	1.04	0.5769