

Table SIV. Pathway analysis of the predicted target genes of microRNAs downregulated >2.000-fold in the small intestine of mice exposed to 10 Gy of X-ray irradiation.

Pathway	P-value	Matched entities	Pathway entities of experiment type
Mm_mRNA_processing_WP310_78419	9.54×10^{-43}	22	549
Mm_PluriNetWork_WP1763_89515	3.56×10^{-33}	17	291
Mm_Chemokine_signaling_pathway_WP2292_97515	2.91×10^{-31}	16	191
Mm_MAPK_signaling_pathway_WP493_78412	2.38×10^{-29}	15	159
Mm_TNF-alpha_NF-kB_Signaling_Pathway_WP246_69201	1.94×10^{-27}	14	184
Mm_Insulin_Signaling_WP65_88446	1.94×10^{-27}	14	160
Mm_Non-odorant_GPCRs_WP1396_69993	1.58×10^{-25}	13	267
Mm_EGFR1_Signaling_Pathway_WP572_82883	1.58×10^{-25}	13	176
Mm_Regulation_of_Actin_Cytoskeleton_WP523_71326	1.05×10^{-21}	11	151
Mm_G_Protein_Signaling_Pathways_WP232_89955	8.51×10^{-20}	10	91
Mm_Focal_Adhesion-PI3K-Akt-mTOR-signaling_pathway_WP2841_94308	8.51×10^{-20}	10	330
Mm_Focal_Adhesion_WP85_94410	8.51×10^{-20}	10	185
Mm_IL-2_Signaling_Pathway_WP450_89849	6.91×10^{-18}	9	76
Mm_Purine_metabolism_WP2185_101822	6.91×10^{-18}	9	176
Mm_Calcium_Regulation_in_the_Cardiac_Cell_WP553_95761	5.60×10^{-16}	8	145
Mm_Alzheimers_Disease_WP2075_97336	5.60×10^{-16}	8	77
Mm_IL-5_Signaling_Pathway_WP151_69175	4.53×10^{-14}	7	69
Mm_Myometrial_Relaxation_and_Contraction_Pathways_WP385_95806	4.53×10^{-14}	7	150

Mm_IL-6_signaling_Pathway_WP387_72091	4.53×10^{-14}	7	99
Mm_Splicing_factor_NOVA_regulated_synaptic_proteins_WP1983_89961	4.53×10^{-14}	7	42
Mm_MicroRNAs_in_Cardiomyocyte_Hypertrophy_WP1560_70037	3.67×10^{-12}	6	104
Mm_Wnt_Signaling_Pathway_NetPath_WP539_71716	3.67×10^{-12}	6	109
Mm_ESC_Pluripotency_Pathways_WP339_94309	3.67×10^{-12}	6	118
Mm_Wnt_Signaling_Pathway_WP403_89969	3.67×10^{-12}	6	60
Mm_One_carbon_metabolism_and_related_pathways_WP1770_98296	3.67×10^{-12}	6	55
Mm_Integrin-mediated_Cell_Adhesion_WP6_97547	3.67×10^{-12}	6	101
Mm_Metapathway_biotransformation_WP1251_94721	3.67×10^{-12}	6	143
Mm_Wnt_Signaling_Pathway_and_Pluripotency_WP723_89312	3.67×10^{-12}	6	97
Mm_IL-7_Signaling_Pathway_WP297_69128	2.96×10^{-10}	5	44
Mm_Hypothetical_Network_for_Drug_Addiction_WP1246_102279	2.96×10^{-10}	5	32
Mm_Spinal_Cord_Injury_WP2432_102465	2.96×10^{-10}	5	102
Mm_IL-3_Signaling_Pathway_WP373_69196	2.96×10^{-10}	5	100
Mm_TGF_Beta_Signaling_Pathway_WP113_69818	2.96×10^{-10}	5	52
Mm_Estrogen_signaling_WP1244_90713	2.96×10^{-10}	5	74
Mm_G1_to_S_cell_cycle_control_WP413_84705	2.39×10^{-8}	4	62
Mm_GPCRs_Class_A_Rhodopsin-like_WP189_79710	2.39×10^{-8}	4	231
Mm_Apoptosis_WP1254_95784	2.39×10^{-8}	4	80
Mm_Nucleotide_Metabolism_WP87_71749	2.39×10^{-8}	4	19
Mm_GPCRs_Class_C_Metabotropic_glutamate_pheromone_WP327_69171	2.39×10^{-8}	4	15
Mm_Kit_Receptor_Signaling_Pathway_WP407_69079	2.39×10^{-8}	4	67
Mm_Kennedy_pathway_WP1771_94212	2.39×10^{-8}	4	14
Mm_Oxidation_by_Cytochrome_P450_WP1274_73502	1.92×10^{-6}	3	40
Mm_Toll_Like_Receptor_signaling_WP88_80116	1.92×10^{-6}	3	33

Mm_miRNA_regulation_of_DNA_Damage_Response_WP2087_102045	1.92x10 ⁻⁶	3	91
Mm_One_Carbon_Metabolism_WP435_98059	1.92x10 ⁻⁶	3	29
Mm_Adipogenesis_genes_WP447_87026	1.92x10 ⁻⁶	3	133
Mm_Endochondral_Ossification_WP1270_87973	1.92x10 ⁻⁶	3	62
Mm_p38_MAPK_Signaling_Pathway_WP350_95744	1.92x10 ⁻⁶	3	34
Mm_Wnt_Signaling_in_Kidney_Disease_WP3857_90797	1.92x10 ⁻⁶	3	37
Mm_MAPK_Cascade_WP251_95771	1.92x10 ⁻⁶	3	29
Mm_Selenium_metabolism-Selenoproteins_WP108_97059	1.92x10 ⁻⁶	3	48
Mm_Glutathione_and_one_carbon_metabolism_WP730_87554	1.92x10 ⁻⁶	3	44
Mm_Microglia_Pathogen_Phagocytosis_Pathway_WP3626_102043	1.92x10 ⁻⁶	3	41
Mm_Primary_Focal_Segmental_Glomerulosclerosis_FSGS_WP2573_97540	1.92x10 ⁻⁶	3	73
Mm_BMP_Signaling_Pathway_in_Eyelid_Development_WP3663_90081	1.92x10 ⁻⁶	3	20
Mm_Alpha6-Beta4_Integrin_Signaling_Pathway_WP488_72049	1.92x10 ⁻⁶	3	67
Mm_Neural_Crest_Differentiation_WP2074_101978	1.92x10 ⁻⁶	3	101
Mm_Type_II_interferon_signaling_(IFNG)_WP1253_71753	1.92x10 ⁻⁶	3	34
Mm_IL-1_Signaling_Pathway_WP37_97052	1.92x10 ⁻⁶	3	39
Mm_Signaling_of_Hepatocyte_Growth_Factor_Receptor_WP193_88163	1.92x10 ⁻⁶	3	34
Mm_Novel_Jun-Dmp1_Pathway_WP3654_90077	1.55x10 ⁻⁴	2	26
Mm_Retinol_metabolism_WP1259_89974	1.55x10 ⁻⁴	2	39
Mm_Delta-Notch_Signaling_Pathway_WP265_69189	1.55x10 ⁻⁴	2	84
Mm_SIDS_Susceptibility_Pathways_WP1266_69139	1.55x10 ⁻⁴	2	61
Mm_G13_Signaling_Pathway_WP298_79200	1.55x10 ⁻⁴	2	38
Mm_Id_Signaling_Pathway_WP512_69147	1.55x10 ⁻⁴	2	52
Mm_EBV_LMP1_signaling_WP1243_89985	1.55x10 ⁻⁴	2	22
Mm_Exercise-induced_Circadian_Regulation_WP544_95033	1.55x10 ⁻⁴	2	49

Mm_Odorant_GPCRs_WP1397_82866	1.55x10 ⁻⁴	2	225
Mm_EDA_Signalling_in_Hair_Follicle_Development_WP3652_97556	1.55x10 ⁻⁴	2	19
Mm_Cytoplasmic_Ribosomal_Proteins_WP163_78425	1.55x10 ⁻⁴	2	80
Mm_Glutathione_metabolism_WP164_85644	1.55x10 ⁻⁴	2	19
Mm_ErbB_signaling_pathway_WP1261_71282	1.55x10 ⁻⁴	2	46
Mm_Oxidative_Stress_WP412_89965	1.55x10 ⁻⁴	2	29
Mm_IL-9_Signaling_Pathway_WP10_97840	1.55x10 ⁻⁴	2	24
Mm_EPO_Receptor_Signaling_WP1249_69099	1.55x10 ⁻⁴	2	26
Mm_Eukaryotic_Transcription_Initiation_WP567_89957	1.55x10 ⁻⁴	2	41
Mm_Hypertrophy_Model_WP202_95798	1.55x10 ⁻⁴	2	20
Mm_Dysregulated_miRNA_Targeting_in_Insulin-PI3K-AKT_Signaling_WP3855_89747	1.55x10 ⁻⁴	2	33
Mm_GPCRs_Other_WP41_78413	1.55x10 ⁻⁴	2	210
Mm_Translation_Factors_WP307_79828	1.55x10 ⁻⁴	2	50
Mm_PPAR_signaling_pathway_WP2316_97554	1.55x10 ⁻⁴	2	85
Mm_Oxidative_Damage_WP1496_90720	0.012453137	1	41
Mm_Oxidative_phosphorylation_WP1248_86864	0.012453137	1	59
Mm_Glycolysis_and_Gluconeogenesis_WP157_90167	0.012453137	1	50
Mm_FAS_pathway_and_Stress_induction_of_HSP_regulation_WP571_71736	0.012453137	1	38
Mm_Biogenic_Amine_Synthesis_WP522_89981	0.012453137	1	15
Mm_GPCRs_Class_B_Secretin-like_WP456_69131	0.012453137	1	22
Mm_Glycogen_Metabolism_WP317_89956	0.012453137	1	34
Mm_Matrix_Metalloproteinases_WP441_69114	0.012453137	1	29
Mm_Keap1-Nrf2_WP1245_89978	0.012453137	1	14
Mm_Fatty_Acid_Beta_Oxidation_WP1269_89728	0.012453137	1	34
Mm_Proteasome_Degradation_WP519_95796	0.012453137	1	53

Mm_Gene_regulatory_network_modelling_somitogenesis_WP2852_87526	0.012453137	1	11
Mm_Peptide_GPCRs_WP234_78410	0.012453137	1	70
Mm_Nuclear_receptors_in_lipid_metabolism_and_toxicity_WP431_96445	0.012453137	1	30
Mm_Complement_and_Coagulation_Cascades_WP449_71733	0.012453137	1	62
Mm_ApoE_and_miR-146_in_inflammation_and_atherosclerosis_WP3592_94329	0.012453137	1	9
Mm_Striated_Muscle_Contraction_WP216_87693	0.012453137	1	45
Mm_Folic_Acid_Network_WP1273_101980	0.012453137	1	27
Mm_Hedgehog_Signaling_Pathway_WP116_69142	0.012453137	1	22
Mm_Inflammatory_Response_Pathway_WP458_78438	0.012453137	1	30
Mm_DNA_Replication_WP150_69148	0.012453137	1	41
Mm_Nuclear_Receptors_WP509_89865	0.012453137	1	38
Mm_Signal_Transduction_of_S1P_Receptor_WP57_94903	0.012453137	1	22
Mm_Ovarian_Infertility_Genes_WP273_88257	0.012453137	1	31
Mm_miR-127_in_mesendoderm_differentiation_WP3991_92555	0.012453137	1	10
Mm_Parkinsons_Disease_Pathway_WP3638_97511	0.012453137	1	65
Mm_Serotonin_and_anxiety-related_events_WP2140_101979	0.012453137	1	13
Mm_Notch_Signaling_Pathway_WP29_79679	0.012453137	1	46
Mm_Arachidonate_Epoxygenase_Epoxyde_Hydrolase_WP1250_89959	0.012453137	1	3
Mm_Factors_and_pathways_affecting_insulin-like_growth_factor_(IGF1)-Akt_signaling_WP3675_90178	0.012453137	1	32
Mm_Eicosanoid_Synthesis_WP318_89525	0.012453137	1	19
Mm_Lung_fibrosis_WP3632_102002	0.012453137	1	64
Mm_Selenium_Micronutrient_Network_WP1272_95973	0.012453137	1	31
Mm_Nucleotide_GPCRs_WP207_69172	0.012453137	1	11

Mm_Serotonin_and_anxiety_WP2141_101828	0.012453137	1	19
Mm_Methylation_WP1247_69203	0.012453137	1	9
Mm_TYROBP_Causal_Network_WP3625_101909	0.012453137	1	58
Mm_White_fat_cell_differentiation_WP2872_90848	0.012453137	1	32
Mm_NLR_Proteins_WP1256_71759	0.012453137	1	9
Mm_Acetylcholine_Synthesis_WP175_90725	0.012453137	1	7