Supplementary Material

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Conflict of interest: All authors declare no conflict.

Table S1: Significant DEGs from transcriptomic assay for the comparison T0dxT60d by each group, gNADR and gADR:

11 significant genes from the comparison T0dxT60d in the gNADR group		
Gene	**logFC**	**P Value**
CHAD	-1.41622	0.001336
COL18A1	-1.61027	0.001807
HRK	-1.29777	0.04754
IFI44L	1.856523	0.002944
IFIT1	1.339136	0.017201
N4BP3	-1.43522	0.022686

OAS3	1.472554	0.001609
RSAD2	1.6265	0.018014
SERPING1	1.330768	0.005578
TNFRSF17	-1.37666	0.001339
ZNF365	-3.40626	0.042609
173 significant genes from the comparison T0dxT60d in the gADR group		
Gene	**logFC**	**P Value**
ACTC1	2.45055	0.021523
ADGRA3	1.837984	0.00172
ADRA2A	2.213965	0.005612
ALOX15B	1.63046	0.001612
APCS	2.623452	0.028767
APLP1	1.395323	0.039663
APOA4	2.583216	0.036837
APOB	2.401228	0.038535
ARC	1.818692	0.005489
ARHGEF17	1.364797	0.005939
ASPM	1.631608	0.000936
ASS1	1.359996	0.009166
BHLHA15	1.447433	0.013638
C10orf55	1.785034	0.034693
CACNA1D	2.131394	0.000182
CALML5	1.558004	0.03891
CAMSAP3	1.332978	0.029195
CATSPER1	1.854484	0.038522
CCL18	1.57277	0.032925
CCL19	1.740797	0.022269
CCL21	1.539176	0.03734

CCL26	1.886223	0.042051
CCL27	1.597928	0.0195
CCNE1	1.785039	0.000134
CD1B	1.830666	0.0000249
CDH3	1.844506	0.002509
CH25H	1.412112	0.04542
CHEK1	1.624458	0.027361
CLDN16	1.760372	0.022516
CLDN3	1.494903	0.016497
CLEC4M	2.171416	0.031127
CLSTN2	2.139265	0.034356
CMA1	1.797232	0.026788
CNTFR	1.894085	0.046008
COL4A1	2.291074	0.005858
COMP	1.849264	0.03924
CREB3L1	1.945041	0.012901
CXCL6	1.381453	0.021078
CYP11B1	2.399168	0.005688
CYP24A1	2.597834	0.004537
CYP2B6	1.878145	0.047007
CYR61	2.139308	0.030631
DAB2IP	1.468407	0.0179
DACT3	1.601558	0.04153
DEFA5	1.964974	0.02423
DEPDC1	1.661597	0.008962
DHRS2	1.662547	0.045173
DIO3	1.777374	0.021156
DIRAS3	2.733008	0.004499
DLL3	1.37263	0.013708

DPPA3	1.495257	0.044376
DRD5	1.298153	0.046907
ELF3	1.93934	0.000998
EMP1	1.466612	0.000676
ERBB3	1.753003	0.008316
FBXL2	2.26805	0.0204
FGFR4	1.364339	0.013233
FZD8	1.292147	0.032343
GABRB1	3.017873	0.024332
GATA6	2.131049	0.007952
GLYATL1	2.039689	0.035696
GNB3	1.661934	0.003563
GOLGA6B	1.778258	0.010695
GOLGA6C	1.720963	0.032767
GPC5	2.590636	0.034321
GPHA2	1.732325	0.008103
GPR32	1.621702	0.018819
GSTA1	2.68789	0.002947
GSTA3	3.599436	0.002009
HIST1H2BJ	1.510803	0.003287
HPN	1.556879	0.018036
HPX	1.336865	0.029297
HSD11B2	1.475301	0.005652
HSPB6	1.504065	0.023123
IFNA6	1.50955	0.047139
IFNL1	2.044792	0.02705
IFNL2	2.139206	0.033005
IFNW1	1.407464	0.030428
IL11	1.531422	0.024418

IL19	2.517126	0.004685
IL20	2.415008	0.017823
IL22	1.647637	0.003771
IL24	1.840818	0.012408
IL26	3.43641	0.009454
IQGAP3	1.500754	0.004505
JUN	1.664272	0.017361
KCNJ11	1.565567	0.028871
KIF20A	1.258003	0.008607
KLK3	1.741423	0.002557
KLK5	2.05524	0.034665
KRT10	1.840699	0.01756
KRT14	1.964658	0.016522
KRT16	1.995597	0.039191
KRT6B	2.519766	0.025605
LRRC34	2.448772	0.002658
MAB21L1	1.316935	0.028695
MAFA	1.536789	0.024843
MAP1LC3C	2.416966	0.031011
MARK1	2.319701	0.007639
MC3R	1.773516	0.020588
MCAM	1.832275	0.005964
MFAP4	1.461485	0.003478
MIOX	1.876908	0.005819
MIR31HG	2.608996	0.001883
MIR548I1	1.440914	0.004891
MIR548I2	1.507455	0.006838
MIR548I3	1.59069	0.013955
MLC1	1.924571	0.001525

MMD2	2.266528	0.031468
MMRN2	1.650436	0.042361
MOS	1.600695	0.033216
MRC2	1.569296	0.003275
MRGPRX1	1.45416	0.048126
MST1R	1.658162	0.009645
MT3	1.571337	0.007037
MUC5B	1.750745	0.012175
MYH6	1.778377	0.031352
MYRF	1.606156	0.011183
NCR2	2.145459	0.027939
NOG	2.780361	0.00031
NOTCH3	1.563561	0.006884
NOTCH4	2.019469	0.03974
NPPA	1.582863	0.010828
NUPR1	1.783574	0.01851
NXF3	1.480634	0.025508
NYNRIN	1.587131	0.011739
P4HA3	1.670191	0.026239
PACSIN3	1.64087	0.04635
PAEP	1.742416	0.034446
PDGFRA	2.035476	0.044884
PKLR	2.38023	0.009216
PKP3	1.807048	0.01851
PLA2G2A	2.734578	0.016239
PLK2	1.355021	0.004875
PLOD2	1.86641	0.000147
PMEL	1.823925	0.002291
PPP1R1B	1.273802	0.03015

PRKAG3	2.385151	0.024401
PRPH	1.784126	0.029832
RAC3	1.308664	0.008868
RAMP2	2.127556	0.011208
RGS4	1.932406	0.044453
RHBDF1	1.886511	0.004597
RHCG	2.391264	0.027449
RXFP3	1.478782	0.031246
RYR1	2.266577	0.003275
SERPINE1	1.497074	0.000972
SHBG	1.846593	0.035275
SLC52A1	1.439858	0.007942
SLC5A2	1.374723	0.016504
SLCO2A1	1.629517	0.024547
SLCO4A1	1.49533	0.009903
SNX7	1.326715	0.022127
SOX11	1.450997	0.040795
SOX2	1.704571	0.039581
STAP2	1.454356	0.002956
STRA6	2.880188	0.019315
TACSTD2	1.485803	0.026471
TAF7L	3.095862	0.004627
TBX6	1.318594	0.002841
TEAD3	1.483095	0.016398
TEAD4	2.330419	0.011743
TGFB2	1.480613	0.007428
TIE1	2.035245	0.004696
TKTL2	1.442721	0.038432
TPSD1	1.795225	0.03743

TRIL	1.558699	0.026059
TSPAN1	1.977775	0.013676
TYRO3	1.788688	0.027913
UGT1A10	1.755202	0.019476
XAGE2	2.257155	0.018549
ZNF668	1.574247	0.028353
ZNF750	2.040499	0.010593

Table S2: Signaling pathways activated from significant genes expression by groups. Genes in bold on the Molecules in Network column were dosed, table S1, and considered significant. The Score value is the power of the association of the pathway with the Top Diseases and Functions ranked by the literature that corroborates these findings. The Top diseases and Functions column presents in bold the clinical conditions observed or expected in patients from each of the groups, gNADR and gADR:

gNADR patients			
Molecules in Network	**Score**	**Focus Molecules**	**Top Diseases and Functions**
AGER, BTK**, CHAD, COL18A1**, DDIT4, DDX58, EPHB2, ERK1/2, F11, **HRK**, HTRA1, ID3**, IFI44L**, IFIH1, **IFIT1**, IFN type 1, IFNG, Interferon alpha, IRF7, JUNB, LBP, NRP1, **OAS3**, P38 MAPK, p70 S6k, **RSAD2**, SELP, **SERPING1**, STAT1, STAT2, TCR, TNF, **TNFRSF17**, TNFSF13B, **ZNF365**	24	10	**Antimicrobial Response, Inflammatory Response, Organismal Survival**
N4BP3,YWHAG	3	1	Cell Morphology, Cell-To-Cell Signaling and Interaction, Cellular Assembly and Organization

gADR patients			
Molecules in Network	**Score**	**Focus Molecules**	**Top Diseases and Functions**

Ap1**, CALML5, CCL21,** Cg**, CLSTN2, CXCL6, CYR61, ELF3, EMP1, FZD8, IFNL1**, Iga, IgG**, IL11, IL19, IL20, IL22, IL24, IL26,** IL12 (complex)**, JUN, KRT10, KRT16, MCAM, NCR2,** NFkB (complex)**, RGS4,** Secretase gamma**, SHBG, SLC52A1, STAP2, TACSTD2, TIE1, TPSD1, TYRO3**	42	28	**Dermatological Diseases and Conditions**, **Organismal Injury and Abnormalities**, Cellular Movement
ADRA2A, Akt**, CCL19, CCL26, CCL27, CCNE1, COL4A1, CYP24A1, DAB2IP, DEFA5, DLL3, ERBB3,** ERK, ERK1/2**, FGFR4, GATA6, GOLGA6A (includes others)**, Histone h3**, KLK3, KLK5, KRT14, KRT6B, MRGPRX1,** Notch**, NOTCH3,** P38 MAPK**, PDGFRA,** PI3K (family)**, PLOD2, PPP1R1B, RXFP3, SERPINE1, SOX2,** TCF**, TGFB2**	39	27	Cancer, **Gastrointestinal Disease**, **Organismal Injury and Abnormalities**
ANGPTL3, APOA1, **APOA4, APOB**, APOC2, **ARHGEF17**, CCR5, CDC42EP4, CETP, **CH25H**, CXCL8, CYP11A1, DAB2, FANCC, FSH, **GPC5**, GPLD1, HMOX1, **HPX, HSPB6, IFNL2**, KAT5, KRT18, LDLR, Lh, **MT3, MYH6, MYRF**, NLK, Rac, **RGS4, SNX7, TKTL2,** TLR4**, TYRO3**	16	15	Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism
ADGRA3, ALOX15B, AR, **ASPM,** ATF1**, CCL18, COMP**, CXCL5, **CYP11B1**, CYP17A1, **DEPDC1**, FOXO1, **GSTA1**, GSTA2, **GSTA3**, IGHE, IL13, IL17D, IL7R, JAG1, JAK1, **MIOX**, **MMRN2, MUC5B**, NPPB, NR5A1, PIAS1, SAA1, SREBF1, **TEAD3**, THBS1, TNF, UBE2I, WNT5A, **ZNF750**	15	14	Lipid Metabolism, Small Molecule Biochemistry, Vitamin and Mineral Metabolism
AGO2, AREG, BIRC5, **C10orf55**, CRYAB, DLG1, DNAJB6, ENG, FLOT2, **FZD8**, HEY1, **IQGAP3, mir-548**, miR-16-5p(and other miRNAs w/seed AGCAGCA), miR-34a-5p(and other miRNAs w/seed GGCAGUG), **MOS, MRC2**, **NYNRIN**, PLAU, **PLK2, PRKAG3**, RB1CC1, S100A2, **SERPINE1**, **SLC5A2**, SMAD3, SNAI2, TCF7L2, **TGFB2**, TP53, TP73, **TSPAN1**, WT1, WWOX, **ZNF668**	15	14	Cardiovascular System Development and Function, Organismal Development, Cellular Development
ARC, CACNA1D, CAMSAP3, CCND1, CEBPA, **CLDN3, CLDN16**, CXCL9, CXCL11, **CYP2B6, CYR61**, DNM1L, ETV5, GLI1, GLI2, **GLYATL1**, GPER1, HES1, Mek,mir-515, MYB, NFE2L2, OLR1, **PKP3, PMEL, PRPH**, RBP1, RELA, RXRA, **STRA6, TEAD4**, TP63, **UGT1A7 (includes others)**, VDR, VEGFC	15	14	Cellular Growth and Proliferation, Tissue Development, Cellular Development

ACTA2, **APLP1,** APP, **ASS1**, BMP7, CD44, **CMA1**, CTGF, **DIO3, FBXL2**, FGF2, FN1, GATA4, **GPR32**, HAND2, HMOX1, HSPA8, IL6, KAT5, **MFAP4**, MIF, MYOC, MYOCD, NEUROG1, **NOG**, NOS2, **NPPA, PLA2G2A**, RAF1, **RHBDF1**, SMPD2, **SOX11, TAF7L**, TBX5, THBS1	13	13	Cellular Development, Embryonic Development, Organismal Development
AGRP, BMP4, CD274, CEACAM1, **CHEK1, CREB3L1, DIRAS3, DRD5**, ERVW-1, GAB2, GNA13, HEY1, **HSD11B2**, IL2, **IL22**, IL6R, JAK1, LEP, **MARK1, MC3R, NOTCH4, NUPR1, NXF3, PAEP**, POMC, PPARD, Ppp2c, SMOOTH MUSCLE ACTIN, STAT3, VEGFA, WT1, **XAGE2**, XPO1, YWHAG, YWHAH	13	13	Tissue Development, Cellular Development, Cellular Growth and Proliferation
BHLHA15, CCL8, **CCL18, CD1B, CDH3**, CEBPB, **CNTFR**, CSF2, CSF1R, CXCL5, EP300, FNDC3A, HNF4A, IL1A, IL1B, ITGB8, **JUN**, JUND, MAP2K7, mir-146, **MIR31HG**, MLXIPL, MMP10, **MST1R**, NFKBIZ, NR4A2, **PKLR,** PTX3, **RHCG, RYR1**, SAA1, SFTPD, **SLCO4A1**, SOD2, TREM1	12	12	Cellular Function and Maintenance, Cellular Movement, Inflammatory Response
APCS, BTK, CCL3, CCL4, **CLEC4M**, CRP, CXCL5, CXCL9, CXCL11, DRAP1, GCG, **GNB3, HIST1H2BJ**, HNF1A, HNF4A, IFIT1, **IFNA6, IFNL1, IFNW1**, IGF1, IL15, INS, Interferon alpha, IRF9, **KCNJ11, KIF20A,** MX1, PI3K (complex), **RAC3**, RARB, STAT2, TCF7L2, TLR3, TNFSF10, **TRIL**	10	11	Cell-To-Cell Signaling and Interaction, **Hematological System Development and Function**, Immune Cell Trafficking
ACTC1, ADM, CALCRL, **DHRS2, DPPA3**, EOMES, NANOG, POU5F1, **RAMP2**, Smad2/3, **SOX2**, SOX17, **TBX6**	7	6	Cellular Function and Maintenance, Cell-To-Cell Signaling and Interaction, Cellular Development
DNMT3B, **LRRC34**	1	1	DNA Replication, Recombination, and Repair, Developmental Disorder, **Gastrointestinal Disease**
MAFA, PDX1	1	1	Cellular Development, Cellular Growth and Proliferation, **Digestive System Development and Function**
MMP14, **SLCO2A1**	1	1	Connective Tissue Disorders, **Dermatological Diseases and Conditions**, Drug Metabolism

HOXA13, **MAB21L1**	1	1	Embryonic Development, Organ Development, Organ Morphology
MLC1, MYF6	1	1	Developmental Disorder, Hereditary Disorder, **Neurological Disease**
MAP1LC3C, PLEKHM1	1	1	Connective Tissue Disorders, Developmental Disorder, Hereditary Disorder
CACNA1I, **CATSPER1**	1	1	Developmental Disorder, Endocrine System Disorders, Hereditary Disorder
KRAS, **MMD2**	1	1	Cancer, Cardiovascular Disease, Cell Cycle
DACT3, mir-31	1	1	Embryonic Development, **Hair and Skin Development and Function**, Organ Development
P4HA3, P4HB	1	1	Connective Tissue Disorders, Developmental Disorder, Hereditary Disorder
GABRB1, GABRG2	1	1	Infectious Diseases, **Neurological Disease**, Organismal Injury and Abnormalities
GPHA2, GPHB5	1	1	Cell Signaling, Nucleic Acid Metabolism, Small Molecule Biochemistry
HPN, SPINT1	1	1	Immunological Disease, Organismal Injury and Abnormalities, Cancer
ADAM12, **PACSIN3**	1	1	Cancer, Connective Tissue Development and Function, **Hematological Disease**

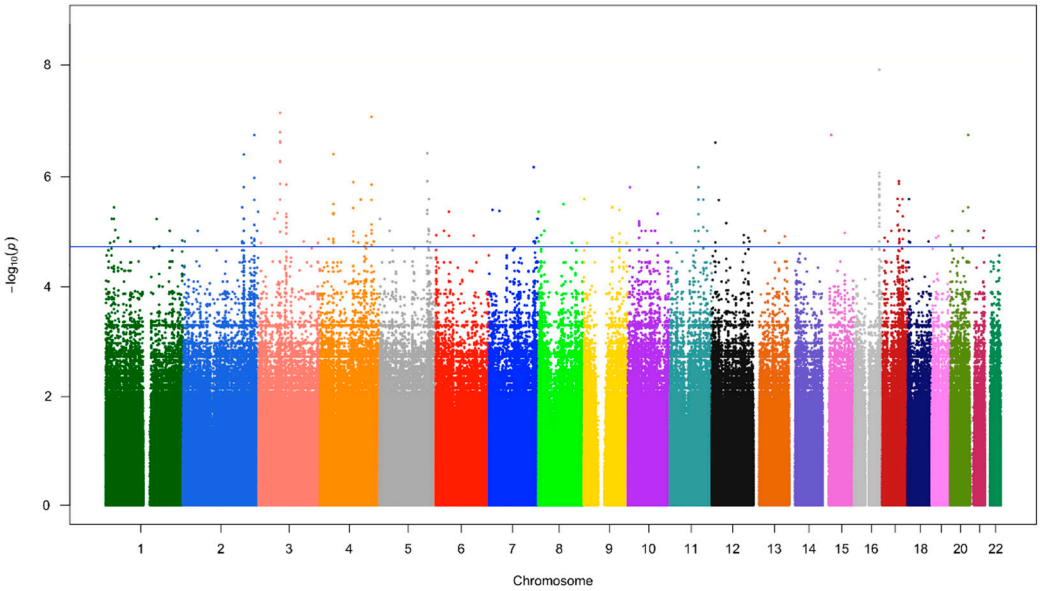

Figure S1: Manhattan plot: All SNPs, from GWAS results, were distributed by the chromosomes they are located and classified by P Value. The blue line represents the cut-off line at 10-5, P value SNPs beneath that were classified as indicative of significance.

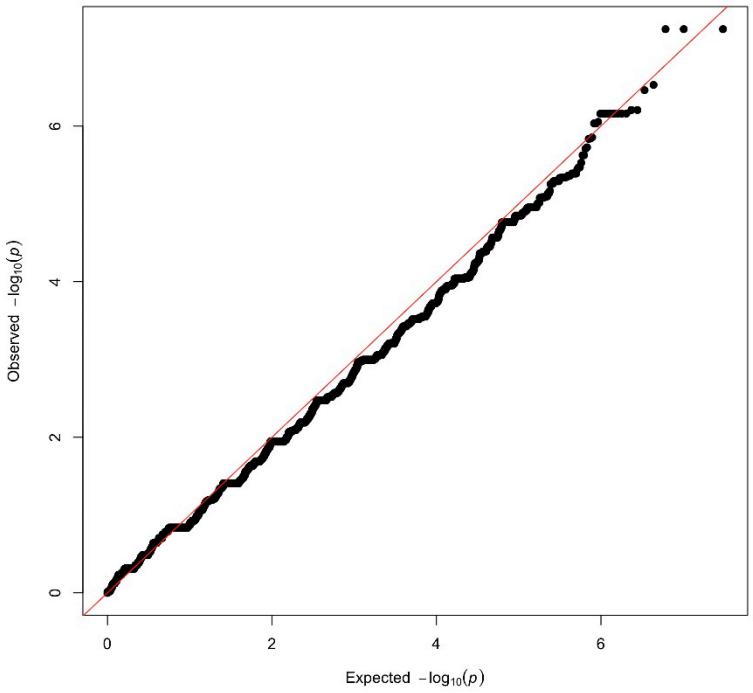

Figure S2: Quantile-quantile plot: The p values observed for each SNP were plotted in ascending order, -log10 (p), against the expected p values, in a Chi-square distribution sample.