

## LGG prognosis and immunotherapy with FAM features

**Table S1.** List of 67 fatty acid metabolism genes related to LGG prognosis

gene	p	HR	high_0.95	low_0.95
SERINC1	7.88E-05	0.4842	0.694082373	0.337829585
LGALS1	8.59E-05	2.052	2.936972878	1.433368098
APEX1	0.008127821	0.6196	0.883191688	0.434650017
ENO2	0.005980932	0.6066	0.866341333	0.424677934
PRDX6	5.55E-05	2.138	3.093908248	1.477634818
ECHS1	0.004910158	0.6003	0.856633174	0.420651276
S100A10	0.011947166	1.585	2.270758303	1.106842396
HSD17B10	0.003676042	1.7	2.431486895	1.188332125
EPHX1	0.003169244	0.5816	0.833596106	0.405742451
MDH2	0.018185849	1.539	2.200340131	1.076082225
HADHB	6.21E-07	0.3837	0.559222035	0.263302356
ACADVL	0.001317938	1.815	2.610338681	1.261471001
ALDH9A1	1.64E-06	0.4063	0.587192744	0.281136736
FASN	0.005849976	0.6076	0.865969977	0.426359594
GABARAPL1	0.008082313	0.6179	0.882350595	0.432732333
CA2	3.82E-05	2.161	3.119179351	1.497696333
ADIPOR2	0.019975686	0.6588	0.936314807	0.463496155
ERP29	0.00017704	2	2.872934192	1.392085851
FH	0.045416457	1.433	2.038096351	1.007363823
IDH3G	0.013823864	0.6367	0.91208269	0.444487468
LDHA	0.000897995	1.862	2.68751811	1.290134657
SMS	4.58E-12	4.164	6.236927975	2.7794617
IDI1	0.000105879	0.4731	0.690719613	0.324084552
CBR1	0.000182389	1.981	2.834163471	1.384871207
SUCLG1	0.00247872	0.5704	0.820552796	0.396502117
UROD	0.000575881	1.892	2.719066943	1.31590967
IDH1	0.006874545	1.635	2.33423103	1.144600498
RETSAT	0.000210599	1.999	2.883969793	1.385954701
GRHPR	0.004381453	0.5958	0.850760489	0.417274102
OSTC	9.71E-06	2.324	3.377856722	1.599611402
PCBD1	0.001970051	1.762	2.522543993	1.230865441
ACO2	0.000816378	0.5303	0.768849233	0.365811256
ACAT2	0.013898593	0.6351	0.911863814	0.442313357
PDHB	0.006202128	0.6046	0.866882094	0.421643381
HSD17B11	0.03079743	1.486	2.128266617	1.037295222
ACADM	0.003747014	1.699	2.430748715	1.187213858
REEP6	0.001035862	0.5427	0.781916851	0.376737379
ACSL1	8.96E-06	2.28	3.280028366	1.584696007
ACSL4	0.029783875	0.6764	0.962405679	0.475417954
CA4	0.003529502	0.5858	0.839027792	0.40898334
HCCS	0.000119059	2.083	3.02645642	1.433322282
CPOX	0.015677673	1.545	2.197968069	1.085592276
CRYZ	0.00014918	2.031	2.929703156	1.408348089
HMGCL	0.003337298	1.714	2.455290339	1.195898789
ACOT8	0.023426147	1.507	2.149289514	1.057046809
AADAT	0.00125954	0.5424	0.786640687	0.373966578
ACADS	2.78E-06	2.376	3.411498891	1.654362677

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UROS	7.49E-06	0.4187	0.612809699	0.286031227
ACAA2	4.29E-05	2.139	3.079332147	1.486027714
MCEE	0.02265018	0.6562	0.942691126	0.456806345
PTS	0.007821011	1.623	2.319844193	1.135940913
PPARA	0.004621787	0.5964	0.852841452	0.41707081
ACSL5	0.02286463	1.519	2.177357715	1.05971539
GOS2	0.002222175	1.747	2.498234288	1.221970354
CBR3	7.80E-06	2.307	3.328902337	1.59926889
MLYCD	0.032091822	0.6787	0.967391659	0.476108144
CPT2	0.001309787	1.824	2.631090286	1.264210685
INMT	0.012691433	1.569	2.237164313	1.101064027
IL4I1	0.00032219	1.946	2.797378512	1.35393045
CEL	0.00327788	1.714	2.45585706	1.196932292
ACADL	0.001132692	1.817	2.602565899	1.268164243
CIDEA	0.037383229	0.6839	0.978049033	0.478187084
ALDH3A1	5.47E-06	2.335	3.365542685	1.619895409
CYP1A1	0.000452023	0.5236	0.751659329	0.364769517
HMGCS2	0.00164641	0.5619	0.804550937	0.392474078
AQP7	3.69E-05	0.4556	0.661867057	0.313620147
ACSM3	0.00407763	1.691	2.420188405	1.18156535