

**Supplementary Table 6. Larger metastasis-associated median difference in gene expression of 36 iPAM genes in young group than in old group from Decipher GRID samples**

Gene**	Young group ( $\leq 55$ years, n* = 48, 149)			Old group ( $> 70$ years, n* = 68, 121)		
	Median difference	p ***	^FDR	Median difference	p ***	^FDR
<i>ASPN</i>	0.325	< 0.001	< 0.001	0.070	0.277	0.499
<i>KRT15</i>	-0.159	< 0.001	< 0.001	0.002	0.906	0.909
<i>FAM13C</i>	-0.193	< 0.001	< 0.001	-0.054	0.009	0.065
<i>NR4A1</i>	-0.394	< 0.001	< 0.001	-0.128	0.079	0.246
<i>ANO7</i>	-0.241	< 0.001	< 0.001	-0.114	< 0.001	< 0.001
<i>MYBPC1</i>	-0.431	< 0.001	< 0.001	-0.203	0.021	0.108
<i>NCAPD3</i>	-0.458	< 0.001	< 0.001	-0.154	0.061	0.220
<i>AZGP1</i>	-0.531	< 0.001	< 0.001	-0.257	0.030	0.135
<i>CDC42EP5</i>	-0.197	< 0.001	< 0.001	-0.068	0.146	0.311
<i>ITGBL1</i>	0.103	< 0.001	< 0.001	0.055	0.113	0.291
<i>SFRP4</i>	0.275	0.001	0.003	-0.024	0.675	0.814
<i>TOP2A</i>	0.077	0.001	0.003	0.074	< 0.001	< 0.001
<i>SLC22A3</i>	-0.228	0.002	0.006	-0.134	0.002	0.018
<i>LRRN1</i>	0.145	0.004	0.010	0.032	0.439	0.718
<i>C7</i>	-0.160	0.004	0.010	-0.079	0.043	0.172
<i>DPT</i>	-0.089	0.006	0.014	-0.009	0.731	0.822
<i>CD24</i>	0.197	0.014	0.029	0.100	0.673	0.814
<i>ANTXR1</i>	0.115	0.026	0.055	0.015	0.678	0.814
<i>ATP5EP2</i>	0.221	0.031	0.062	-0.026	0.701	0.814
<i>LBH</i>	0.058	0.035	0.066	0.037	0.166	0.332
<i>CYBA</i>	-0.085	0.043	0.077	-0.035	0.398	0.682
<i>PCA3</i>	-0.410	0.052	0.089	-0.733	0.001	0.012
<i>KIF21A</i>	0.102	0.065	0.104	0.022	0.576	0.768
<i>GLO1</i>	0.245	0.069	0.104	-0.150	0.133	0.311
<i>LTF</i>	-0.167	0.069	0.104	-0.062	0.208	0.394
<i>GNPTAB</i>	0.142	0.087	0.125	0.030	0.557	0.768
<i>GLYATL1</i>	-0.098	0.104	0.144	-0.076	0.082	0.246
<i>STRBP</i>	0.053	0.157	0.202	0.022	0.565	0.768
<i>RNF39</i>	-0.056	0.283	0.351	-0.027	0.546	0.768
<i>GMNN</i>	0.052	0.308	0.370	0.082	0.013	0.078
<i>SLC37A3</i>	0.053	0.326	0.379	0.072	0.107	0.291
<i>FBXL8</i>	-0.036	0.487	0.538	0.008	0.806	0.879
<i>MTDH</i>	-0.031	0.493	0.538	0.032	0.532	0.768
<i>UGDH</i>	0.066	0.526	0.557	-0.015	0.909	0.909
<i>DDIT4</i>	-0.014	0.789	0.812	0.059	0.147	0.311
<i>CCDC6</i>	-0.020	0.878	0.878	-0.018	0.851	0.901

^ Benjamini-Hochberg adjusted p value by the p.adjust function in R stats package;

\*number of patients with and without metastasis, respectively;

\*\*genes with red font are immune-related genes;

\*\*\* Non-parametric ANOVA (p-values generated by percentile bootstrap), implemented in the “Rallfun-v35” R codes (the pb2gen function) from Dr. Wilcox (4), was used to test median differences in gene expression between patients with and without metastasis in each age group.

## References

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