

Supplementary Table S2: Classification of Biomarker Novelty

The 82 intersected genes were evaluated across six curated resources (CIViC, COSMIC, OncoKB, ONGene, HPA, and DisGeNET). Based on their evidence profiles, genes were stratified into three categories: established biomarkers (n=12), emerging candidates (n=64), and novel genes (n=6).

Gene Name	CIVIC	COSMIC	ONCOKB	ONGENE	HPA	DISGENT	Mean	Classification Category
ACPP					0	0	0	Novel candidate
ACSM2A					1	1	0.33	Emerging candidate
ACSM2B					1	1	0.33	Emerging candidate
AFM					1	1	0.33	Emerging candidate
AHSG					1	1	0.33	Emerging candidate
ALB			1		1	1	0.5	Established biomarker
AMBP					1	1	0.33	Emerging candidate
APC2					1	1	0.33	Emerging candidate
APCS					1	1	0.33	Emerging candidate
APOC3					1	1	0.33	Emerging candidate
APOC4					1	1	0.33	Emerging candidate
ASGR2					1	1	0.33	Emerging candidate
ATP1B2					1	1	0.33	Emerging candidate
ATP2B2					1	1	0.33	Emerging candidate
BAIAP2L1	1			1	1	1	0.66	Established biomarker
C4BPA					1	1	0.33	Emerging candidate
C8G					1	1	0.33	Emerging candidate
CDHR5					1	1	0.33	Emerging candidate
CDX1					1	1	0.33	Emerging candidate
CFHR2					1	1	0.33	Emerging candidate
CREB3L3					1	1	0.33	Emerging candidate
CRP					1	1	0.33	Emerging candidate
F11					1	1	0.33	Emerging candidate
F11R					1	1	0.33	Emerging candidate
F9					1	1	0.33	Emerging candidate
FAM123A					1	1	0.33	Emerging candidate
FGFR4	1	1		1	1	1	0.83	Established biomarker
FGG					1	1	0.33	Emerging candidate
GFAP					1	1	0.33	Emerging candidate
GLYAT					1	1	0.33	Emerging candidate
GPA33					1	1	0.33	Emerging candidate
GPM6A				1	1	1	0.5	Established biomarker
GPRC5A					1	1	0.33	Emerging candidate
HAO1					1	1	0.33	Emerging candidate
HFE2					0	0	0	Novel candidate
HNF4A					1	1	0.33	Emerging candidate
ILDR1					1	1	0.33	Emerging candidate
ITGB6					1	1	0.33	Emerging candidate
ITIH1					1	1	0.33	Emerging candidate
ITIH3					1	1	0.33	Emerging candidate
KCNJ15					1	1	0.33	Emerging candidate

KCNJ16				1	1	0.33	Emerging candidate
KIF5C				1	1	0.33	Emerging candidate
KLK2	1		1	1	1	0.66	Established biomarker
KLK3				1	1	0.33	Emerging candidate
KLK4				1	1	0.33	Emerging candidate
KNG1				1	1	0.33	Emerging candidate
KRT18	1			1	1	0.5	Established biomarker
LMAN1L				1	1	0.33	Emerging candidate
LOC339674				0	0	0	Novel candidate
LRRTM2				1	1	0.33	Emerging candidate
MBL2				1	1	0.33	Emerging candidate
NAPSA				1	1	0.33	Emerging candidate
NAT8				1	1	0.33	Emerging candidate
NKX2-1	1	1	1	1	1	0.83	Established biomarker
NKX3-1			1	1	1	0.5	Established biomarker
OLIG2	1		1	1	1	0.66	Established biomarker
PAX8	1	1	1	1	1	1	Established biomarker
PEA15				1	1	0.33	Emerging candidate
PKP3				1	1	0.33	Emerging candidate
POU3F3				1	1	0.33	Emerging candidate
PTPRZ1				1	1	0.33	Emerging candidate
RAB25				1	1	0.33	Emerging candidate
RFX4				1	1	0.33	Emerging candidate
SCGB3A2				1	1	0.33	Emerging candidate
SERINC2				0	0	0	Novel candidate
SERPINA7				1	1	0.33	Emerging candidate
SFTA3				0	0	0	Novel candidate
SFTPA1				1	1	0.33	Emerging candidate
SFTPBB				1	1	0.33	Emerging candidate
SHD				1	1	0.33	Emerging candidate
SLC13A1				1	1	0.33	Emerging candidate
SLC35E2				1	1	0.33	Emerging candidate
SLC44A4				1	1	0.33	Emerging candidate
SLC45A3	1	1		1	1	0.66	Established biomarker
SOX2OT				0	0	0	Novel candidate
TARP				1	1	0.33	Emerging candidate
TFR2				1	1	0.33	Emerging candidate
TG				1	1	0.33	Emerging candidate
TSHR	1	1		1	1	0.66	Established biomarker
UGT1A4				1	1	0.33	Emerging candidate
VTN				1	1	0.33	Emerging candidate