

Table S1. Lasso estimation.			
	Lambda	Cross-validation deviance	Variables added
	0.0139114	0.0833110	Nodule size
	0.0079606	0.0718943	Nodule type
	0.0028609	0.0651677	STK1p
*	0.0010281	0.0622002	Nodule count
	0.0008536	0.0623281	AFP
	0.0007087	0.0625902	Hypertension
* lambda selected by cross-validation; STK1p=serum thymidine kinase 1 protein; AFP=Alpha-fetoprotein			

Table S2. Collinearity statistics.		
Predictor	Variance inflation factor	Tolerance
Nodule size (mm)	1.0019	0.9981
Serum thymidine kinase 1 protein (pmol/L)	1.0093	0.9908
Nodule type, sub-solid vs. solid	1.0072	0.9928
Nodule count, multiple vs. single	1.0064	0.9936

Table S3. Performance of the prediction model in subgroups.					
Subgroup		AUC	E:O	CITL	Calibration slope
Nodule size (mm)	≥6	0.90	1.00	0.00	1.03
	<6	0.69	1.00	0.00	0.84
Nodule type	Ground-glass	0.90	1.12	-0.13	1.42
	Part-solid	0.84	0.68	0.47	0.84
	Solid	0.92	1.00	0.00	0.94
Nodule count	Multiple	0.87	1.00	0.00	0.94
	Single	0.93	1.00	0.00	1.10
*E:O=expected versus observed probability of 3-year lung cancer; CITL=calibration-in-the-large; AUC=area under receiver operating characteristic curve					

Table S4. Comparison of AUCs between the Mayo model and current model in the study participants.					
Model	Inclusion criteria	Outcome	Algorithms	AUC	*P
Current model	No cancer history or baseline cancer	Incident lung cancer	$Lp = -8.0186 + 0.3090 \times \text{size (mm)} + 1.9089 \times \text{type} + 0.9234 \times \text{count} + 0.4178 \times \text{STK1p (pmol/L)}$	0.87	Reference
Mayo model	Solid nodule, no cancer history within 5 years prior to baseline	Prevalent lung cancer	$Lp = -6.8272 + 0.0391 \times \text{age (year)} + 0.7917 \times \text{smoking} + 1.3388 \times \text{cancer history} + 0.1274 \times \text{size (mm)} + 1.0407 \times \text{spiculation} + 0.7838 \times \text{the upper lobe}$	0.76	<0.001

AUC=area under receiver operating characteristic curve; STK1p=serum thymidine kinase 1 protein; Lp=linear predictor; probability of lung cancer = $\exp(Lp)/(1+\exp(Lp))$; *DeLong's test was used to compare two AUCs