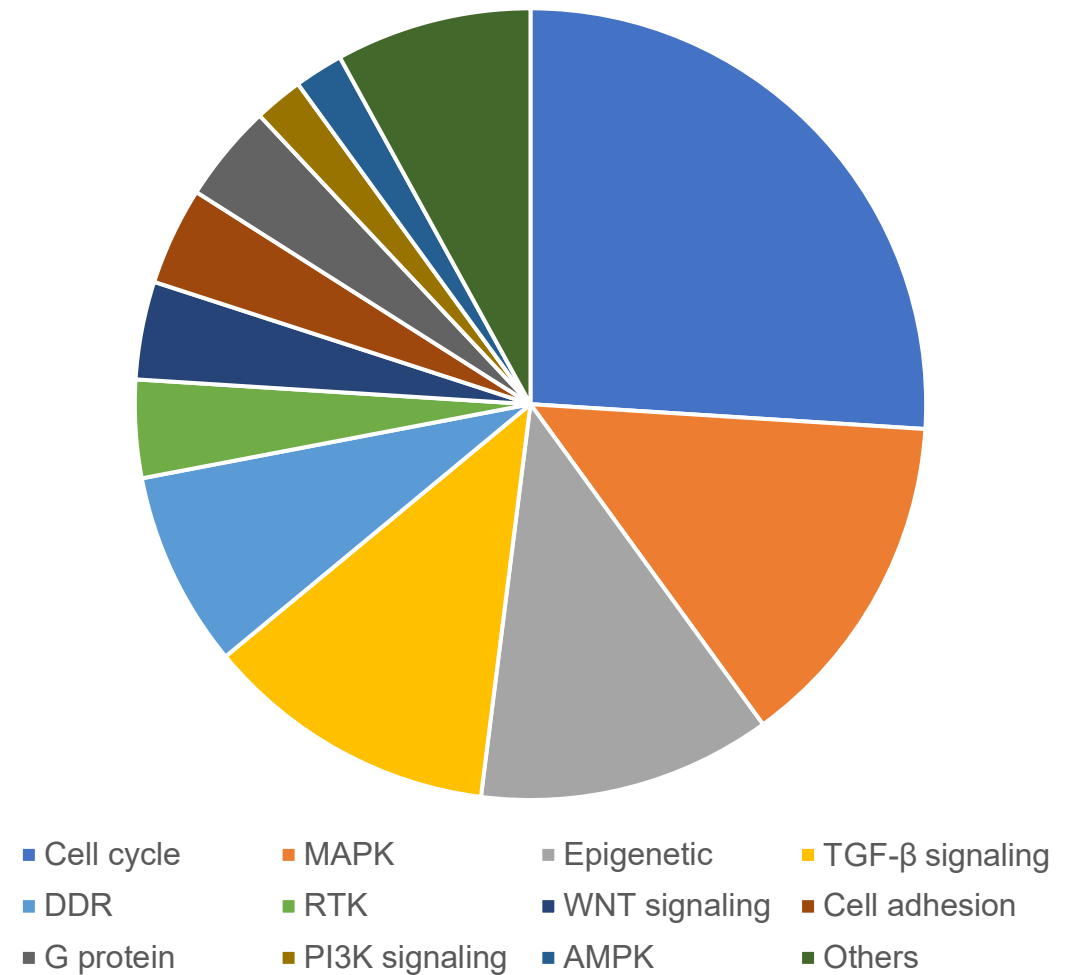


**Figure S2.**

**A**

Gene	Function	N
<i>APC</i>	WNT signaling	1
<i>ARID1A</i>	Epigenetic (Chromatin remodeling)	2
<i>ATM</i>	DDR	1
<i>BCOR</i>	Others (Transcriptional repressor)	1
<i>BRAF</i>	MAPK	2
<i>CDC73</i>	Epigenetic (Histone methylation)	1
<i>CDH1</i>	Cell adhesion	2
<i>CHEK2</i>	DDR	2
<i>CIC</i>	Others (Transcriptional repressor)	1
<i>ERBB2</i>	RTK	1
<i>ERCC2</i>	DDR	1
<i>FBXW7</i>	Others (Ubiquitination)	2
<i>FGFR2</i>	RTK	1
<i>GNAS</i>	G protein	2
<i>KDM6A</i>	Epigenetic (Histone demethylation)	1
<i>KMT2D</i>	Epigenetic (Histone methylation)	1
<i>KRAS</i>	MAPK	4
<i>NF1</i>	MAPK	1
<i>PIK3CA</i>	PI3K signaling	1
<i>RNF43</i>	WNT signaling	1
<i>SMAD2</i>	TGF- $\beta$ signaling	1
<i>SMAD4</i>	TGF- $\beta$ signaling	5
<i>SMARCA4</i>	Epigenetic (Chromatin remodeling)	1
<i>STK11</i>	AMPK	1
<i>TP53</i>	Cell cycle	13
<b>Total</b>		<b>50</b>

**B**



Detected gene mutations and pathway-specific mutations in GCC.

A, Gene mutations detected in GCC and the major function of the genes.

B, Pathway-specific mutations observed in GCC.

Abbreviations: DDR, DNA damage response; GCC, goblet cell carcinoid; RTK, receptor tyrosine kinase.