Supplementary Table S1. The sequences of primers.

Gene name	Forward sequence	Reverse sequence
Mus-α-SMA	GTACCCAGGCATTGCTGACA	GCTGGAAGGTAGACAGCGAA
Mus-COL1A1	TTCTCCTGGCAAAGACGGAC	TTCTCCTGGCAAAGACGGAC
Mus-COL4A2	CTGGTGAAGCACAGCCAAAC	GTCACCCGGATTGCAGTACA
Mus-β-actin	GCAGGAGTACGATGAGTCCG	ACGCAGCTCAGTAACAGTCC
Human-β-actin	GACAGTCAGCCGCATCTTCT	GCGCCCAATACGACCAAATC
Human-α-SMA	CCTATCCCCGGGACTAAGAC	CCATCACCCCCTGATGTCTG
Human-COL1A1	AAGCTGGAAAACCTGGTCGT	AGCACCATCATTTCCACGAG
Human-COL4A2	GGACAGACGAGACAACAGCA	GAGCTGGCATAACATTGGCG
Human-TIMP1	TCTTGGTTCCCTGGCGTACTCT	GTGAGTGTCACTCTCCAGTTTGC
Human-TIMP2	AGCCAAAGCAGTGAGCGAGAAG	GCCGTGTAGATAAACTCGATGTC

Supplementary Table S2: Interactions between ALT Ⅲ with PI3K.

Hydrogen Bonds			***Hydrophobic Interactions***			***Salt Bridges***		
Residue	**AA**	**Dist(H-A/D-A)**	**Residue**	**AA**	**Dist**	**Residue**	**AA**	**Dist**
846A	GLN	2.90/3.29	201A	TRP	3.46	849A	ARG	4.90
			201A	TRP	3.77			
			657A	LEU	3.74			
			694A	PHE	3.84			
			694A	PHE	3.81			

Supplementary Table S3: Interactions between ALT Ⅲ with AKT.

Hydrogen Bonds			***Hydrophobic Interactions***			***Salt Bridges***		
Residue	**AA**	**Dist(H-A/D-A)**	**Residue**	**AA**	**Dist**	**Residue**	**AA**	**Dist**
14A	LYS	3.04	17A	GLU	3.76	14A	LYS	3.75
17A	GLU	2.99	18A	TYR	3.79	25A	ARG	3.96
17A	GLU	3.85	18A	TYR	3.64			
			23A	ARG	3.34			

Supplementary Table S4: Interactions between ALT Ⅲ with GLS1.

Hydrophobic Interactions			***Salt Bridges***		
Residue	**AA**	**Dist**	**Residue**	**AA**	**Dist**
493D	PRO	3.74	543C	ARG	5.23
533C	LEU	3.79			