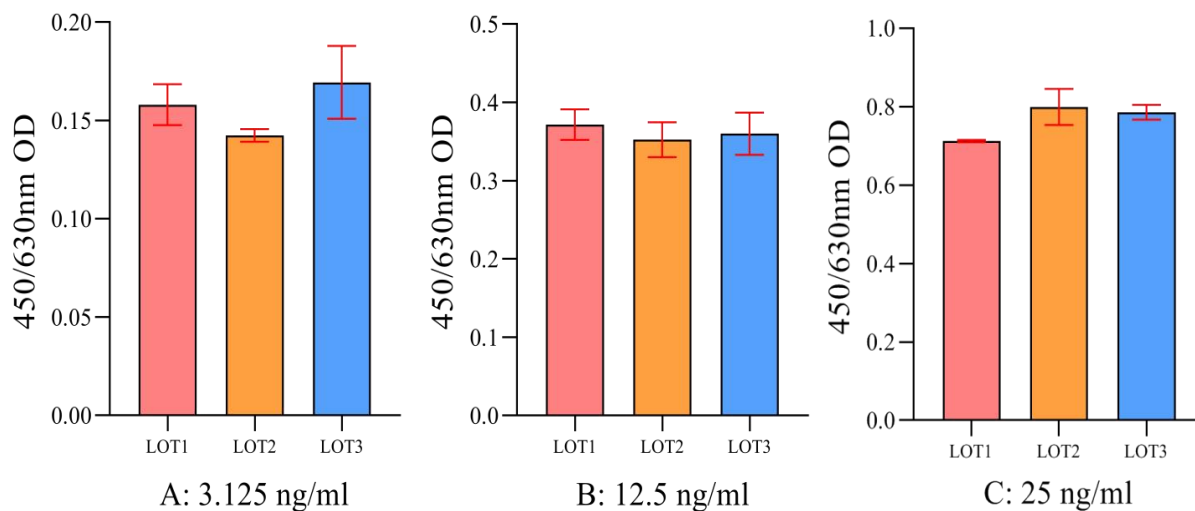


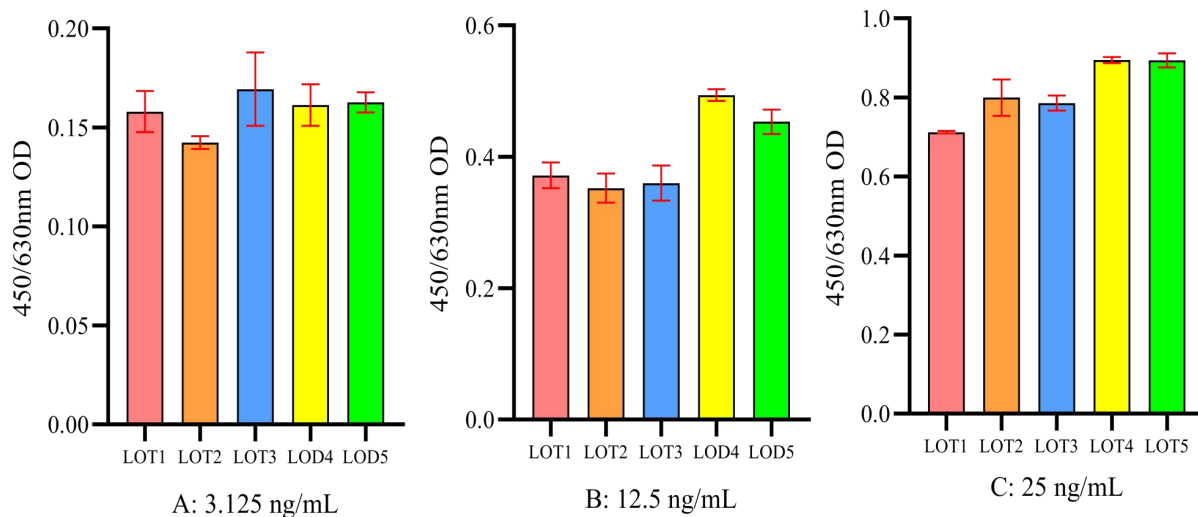
S1 Precision analysis of three levels of verified through 3 batches.



	Number	AVG±AD	Intra assay CV%	Inter assay CV%
<b>Level 1 (3.125 ng/mL)</b>				
LOT 1	3	0.158±0.010	6.6	
LOT 2	3	0.142±0.003	2.2	8.7
LOT 3	3	0.169±0.019	11.0	
<b>Level 2 (12.5 ng/mL)</b>				
LOT 1	3	0.372±0.020	5.3	
LOT 2	3	0.352±0.020	6.2	2.7
LOT 3	3	0.360±0.027	7.4	
<b>Level 2 (25 ng/mL)</b>				
LOT 1	3	0.712±0.003	0.5	
LOT 2	3	0.800±0.046	5.7	6.1
LOT 3	3	0.786±0.019	2.4	

D

S1 Precision analysis of three levels of verified through 5 batches.



	Number	AVG±SD	Intra-assay CV%	Inter-assay CV%
<b>Level 1 (3.125 ng/mL)</b>				
LOT 1	3	0.158±0.010	6.6	
LOT 2	3	0.142±0.003	2.2	
LOT 3	3	0.169±0.019	11	6.3
LOT 4	3	0.161±0.011	6.5	
LOT 5	3	0.163±0.005	3.1	
<b>Level 2 (12.5 ng/mL)</b>				
LOT 1	3	0.372±0.020	5.3	
LOT 2	3	0.352±0.020	6.2	
LOT 3	3	0.360±0.027	7.4	15.6
LOT 4	3	0.494±0.009	1.8	
LOT 5	3	0.453±0.018	4.1	
<b>Level 3 (25 ng/mL)</b>				
LOT 1	3	0.712±0.003	0.5	
LOT 2	3	0.800±0.046	5.7	
LOT 3	3	0.786±0.019	2.4	9.5
LOT 4	3	0.895±0.008	0.8	
LOT 5	3	0.894±0.018	2	

### S3 Specificity analysis of KIN17 protein with AFP, CEA and SCCA in ELISA.

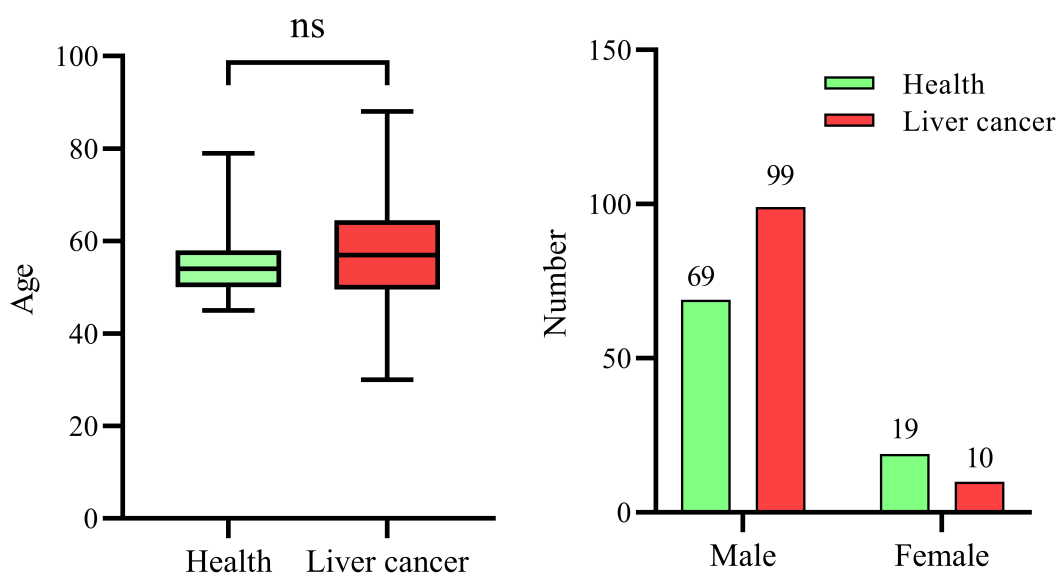
Standard items	Number	Average OD	SD	P value of t-test with KIN17	Differences
Blank (0 ng/mL)	2	0.096	/	/	/
KIN17 (25 ng/mL)	3	1.815	0.009	/	/
AFP (100 ng/mL)	3	0.080	0.002	P < 0.0001	Yes(****)
CEA (100 ng/mL)	3	0.098	0.007	P < 0.0001	Yes(****)
SCCA (70 ng/mL)	3	0.087	0.009	P < 0.0001	Yes(****)

### S4 Stability analysis of enzyme-labeled plates stored at 25 °C and 37 °C for different time.

Temperature/concentration	Number	Average OD	SD	P value of t-test with day 0	Differences
<b>37°C/3.125 ng/mL</b>					
Day 0	3	0.123	0.011	/	/
Day 4	3	0.121	0.005	P=0.818	NS
Day 7	3	0.119	0.005	P=0.609	NS
Day 14	3	0.098	0.003	P=0.018	Yes(*)
<b>25°C/3.125 ng/mL</b>					
Day 0	3	0.295	0.007	/	/
Day 7	3	0.282	0.006	P=0.069	NS
Day 14	3	0.174	0.004	P < 0.0001	Yes(****)

### S5 Age and gender analysis of healthy group and liver cancer group

Group	Number	Age (AVG±SD)	Gender (Male/Female)	P value of age	P value of gender
Health	88	55±6	69/19	0.127 (ns)	0.856 (ns)
Liver cancer	109	57±11	99/10		



### S6 Analysis of concentration of serum samples in healthy group and liver cancer group

Group	Number	Average	SD	Maximum	Minimum	Median	P value
Health	88	2.596	0.774	6.666	1.563	2.368	0.59
Liver cancer	109	2.418	0.316	3.175	1.754	2.5	

S7 Analysis of serum KIN17 protein concentration in healthy group and liver cancer group

<b>Group</b>	<b>Number</b>	<b>AVG±SD of KIN17 (ng/mL)</b>	<b>P value</b>	<b>Differences</b>
<b>Health</b>	88	0.3897±0.755	0.0129	Yes (*)
<b>Liver cancer</b>	109	1.730±5.647		