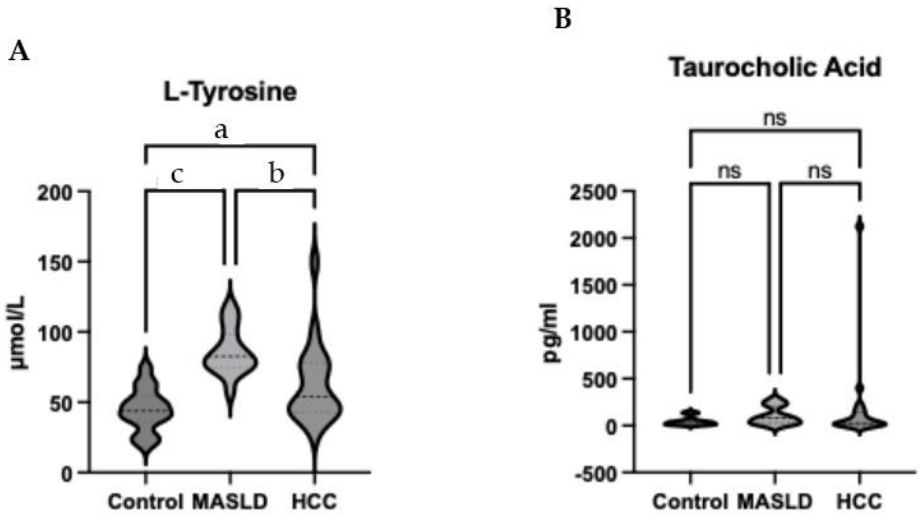
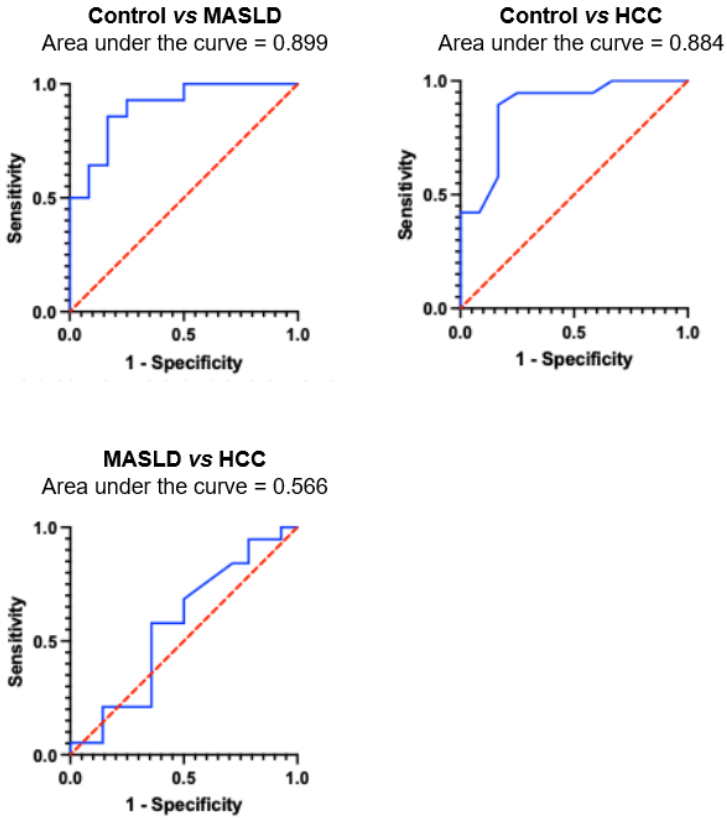


Supplemental Figure 1 Mean serum concentrations. A: L-tyrosineTyr; B: Taurocholic acid. [a]$P < 0.05$, [b]$P < 0.01$, [d]$P < 0.001$. HCC: Hepatocellular carcinoma; MASLD: Metabolic dysfunction-associated steatotic liver disease.



Supplementary Figure 2 Liver assay receiver operating curve characteristics. The results suggest that the Liver FibraChek Dx© + algorithm combination could identify liver diseases from healthy liver, but not differentiate disease types, such as metabolic dysfunction-associated steatotic liver or hepatocellular carcinoma. HCC: Hepatocellular carcinoma; MASLD: Metabolic dysfunction-associated steatotic liver

disease.

Supplemental Table 1 Mean serum concentrations of all 5 biomarkers

	Alanine aminotransferase (U/L)	**Aspartate aminotransferase (U/L)**	**Platelets platelets per unit**	**L-Tyrosine (μmol/L)**	**Taurocholic Acid (pg/mL)**	**Risk score**
Control	27.8	28	299.3	41.1	45	0.31
Metabolic dysfunction-associated steatotic liver disease	71.8	47.9	211.2	88.2	103	0.43
Hepatocellular carcinoma	236.1	389.1	196.3	63.1	184.4	0.45

Supplemental Table 2 Cases and controls calculated as low *vs* higher risk of liver disease using fibrosis-4, *n* (%)

Parameter	**Cases[1]**	**Control**	**Total**
> 1.45 score	25 (75.8)	5 (41.7)	30
≤ 1.45 score	8 (24.2)	7 (58.3)	15
Total	33	12	*n* = 45

[1]Cases include chronic liver disease and hepatocellular carcinoma.