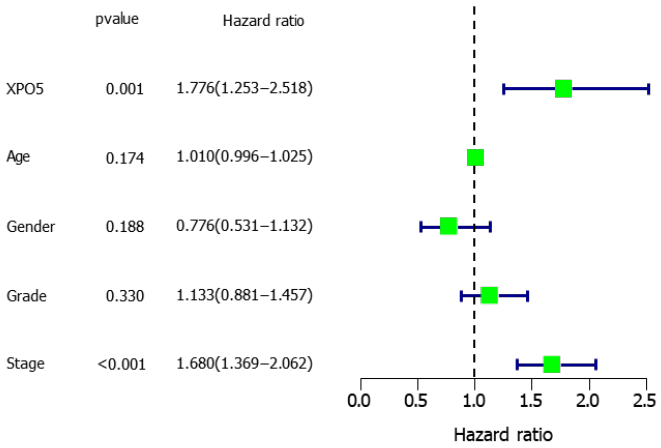
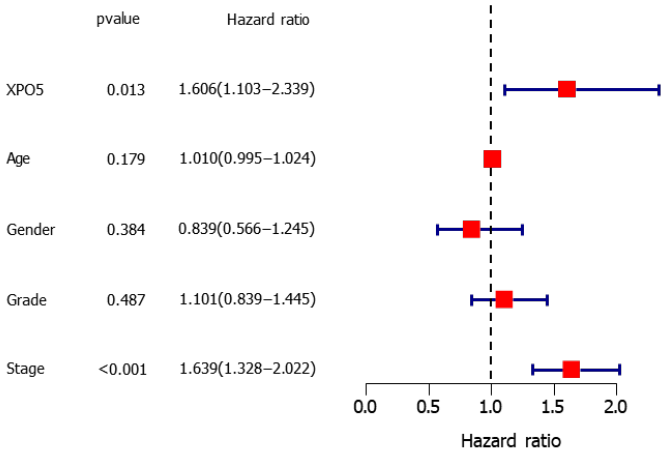
Supplementary material

Supplementary Figure 1 Univariate and multivariate regression analysis of other XPO5 clinicopathologic parameters and OS in patients with HCC

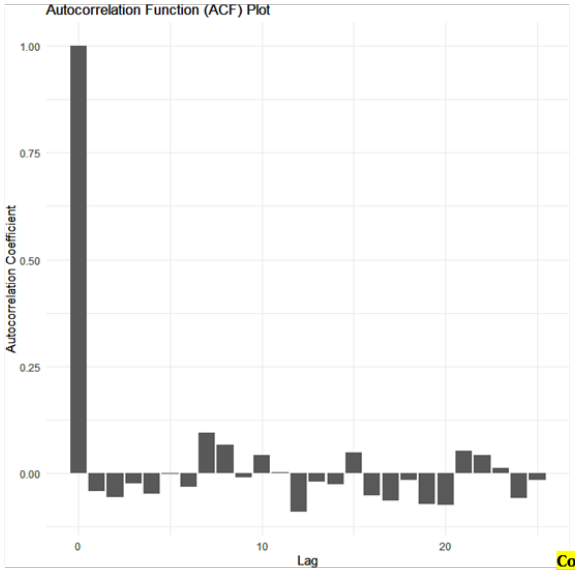
A



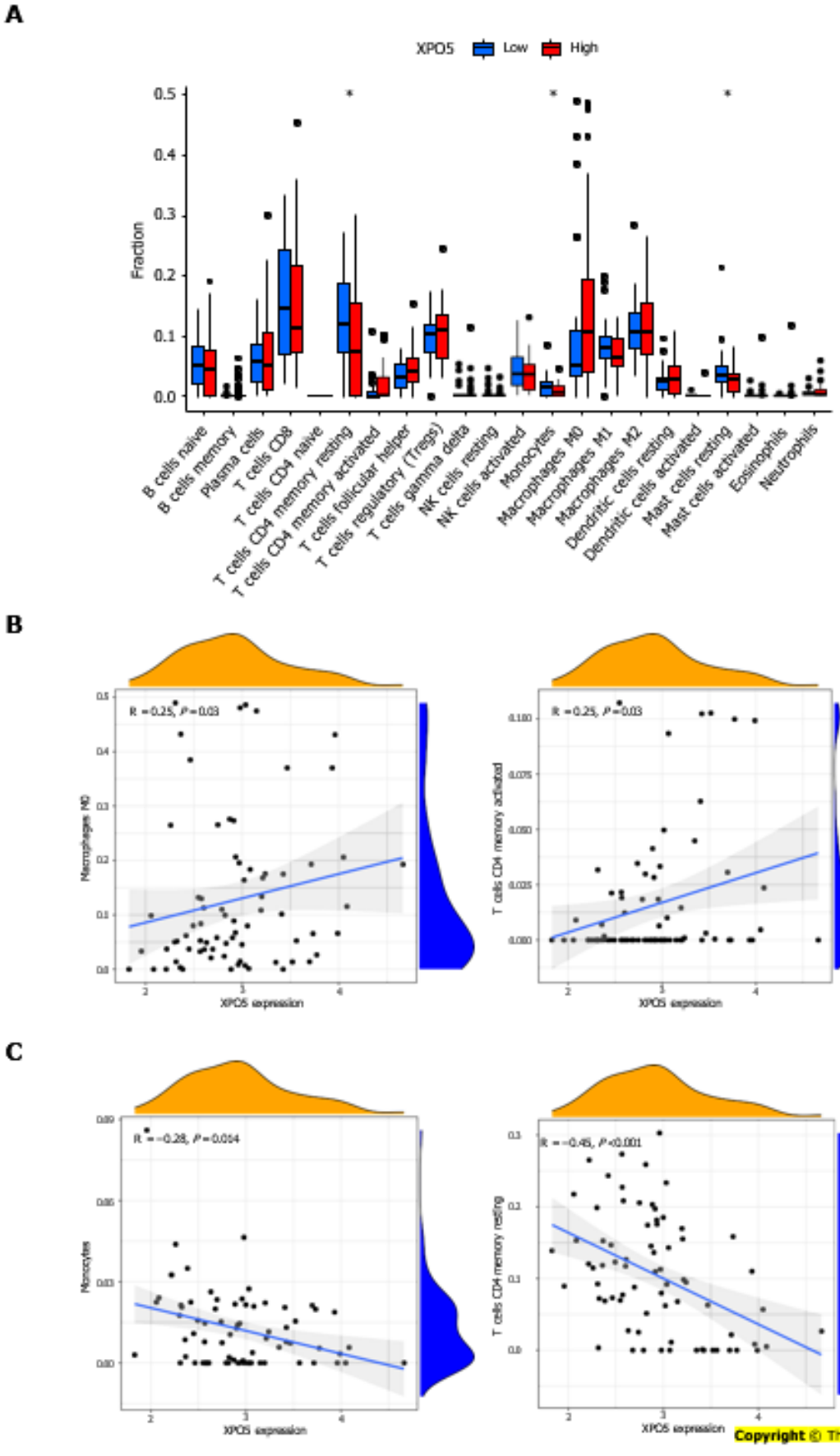
B



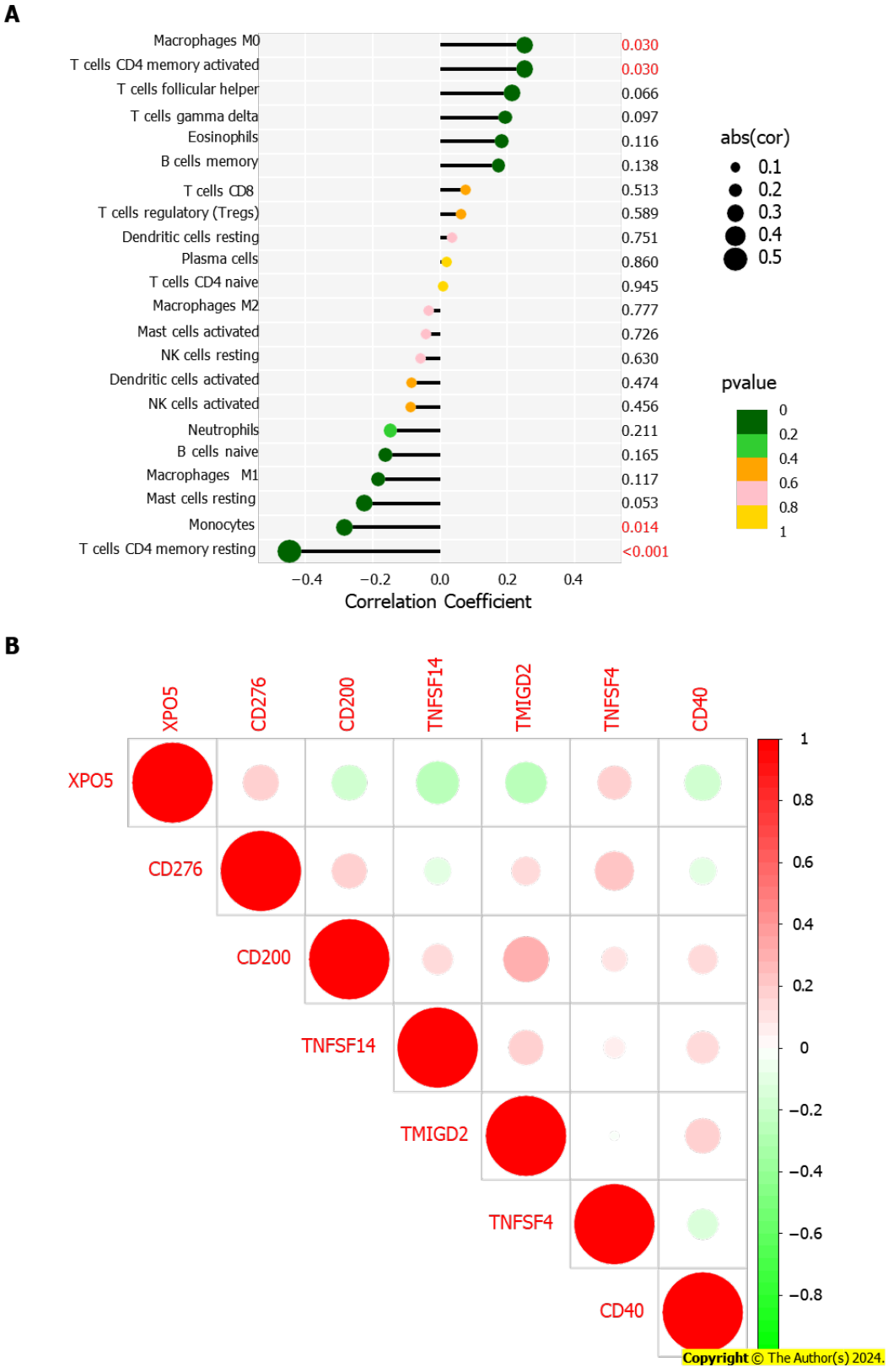
C



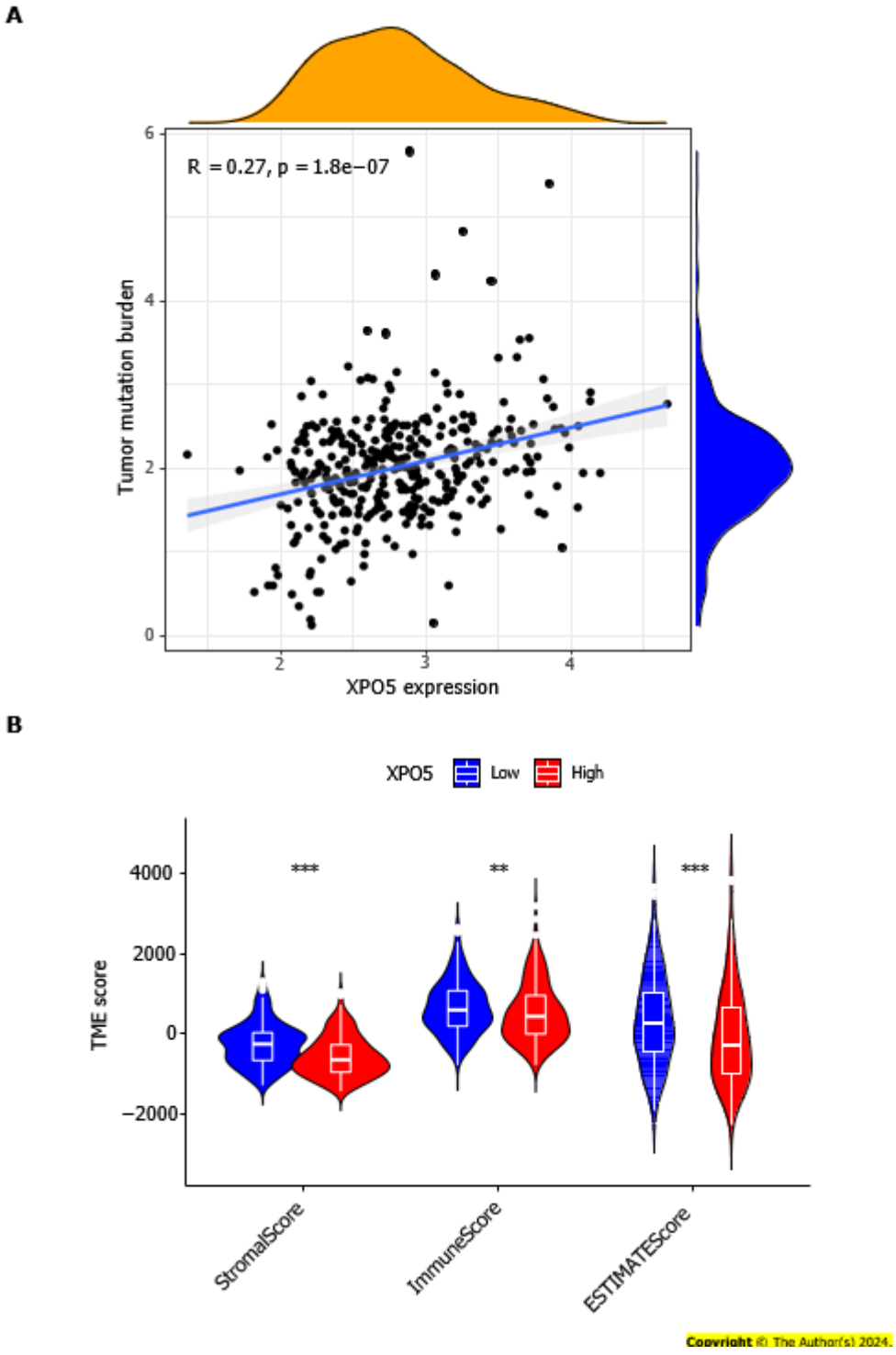
Supplementary Figure 2 Immunology and drug susceptibility analysis of



Supplementary Figure 3 These correlations were then validated (A). Further analysis showed that XPO5 was associated with immune checkpoint molecules in various cancers (B).

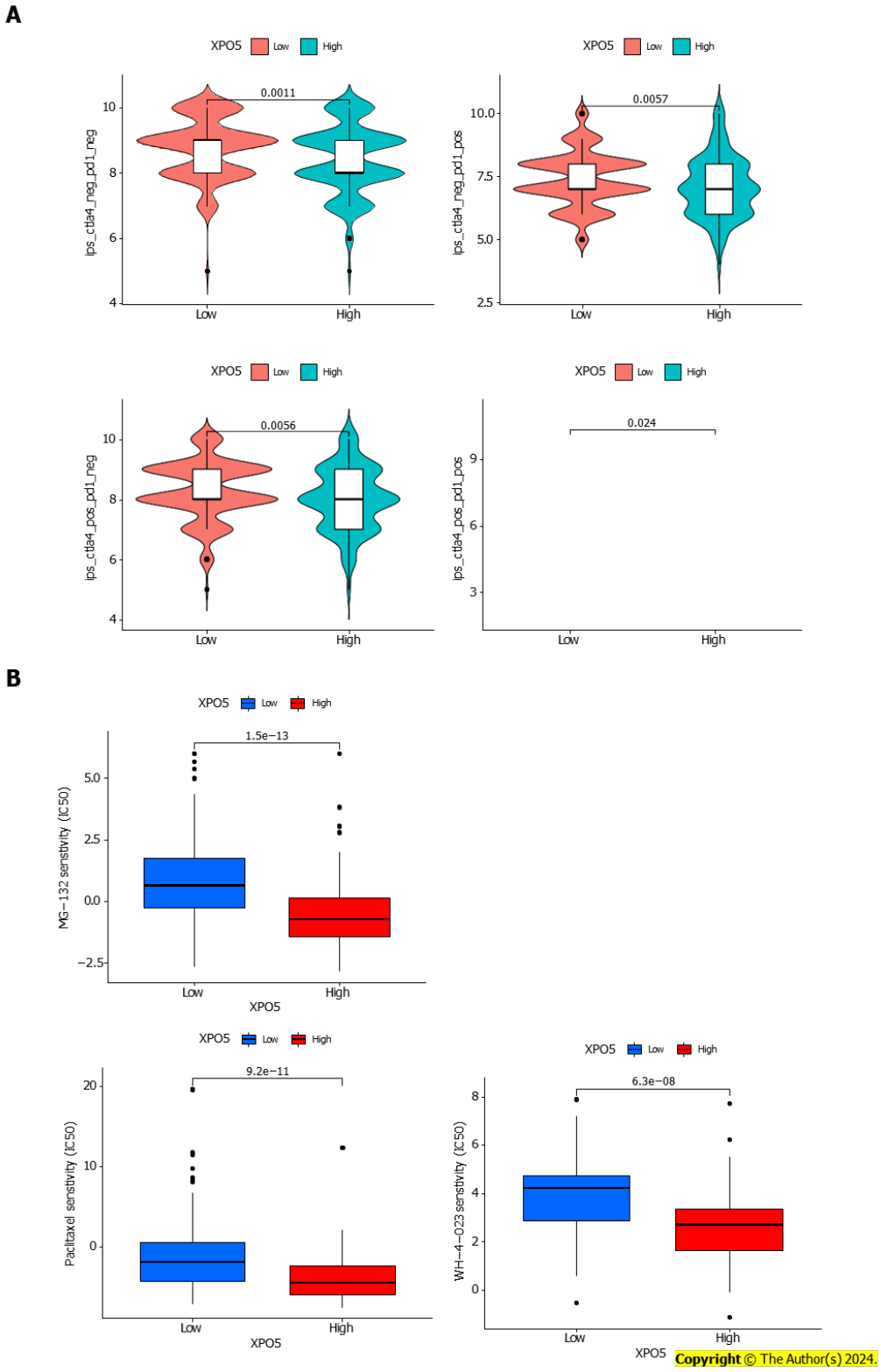


Supplementary Figure 4 Positively correlated with tumor mutation burden (r = 0.27, P < 0.05) (A). TME analysis revealed that the low XPO5 expression group had higher stromal, immune, and ESTIMATE scores, indicating the impact of XPO5 on the TME (B).

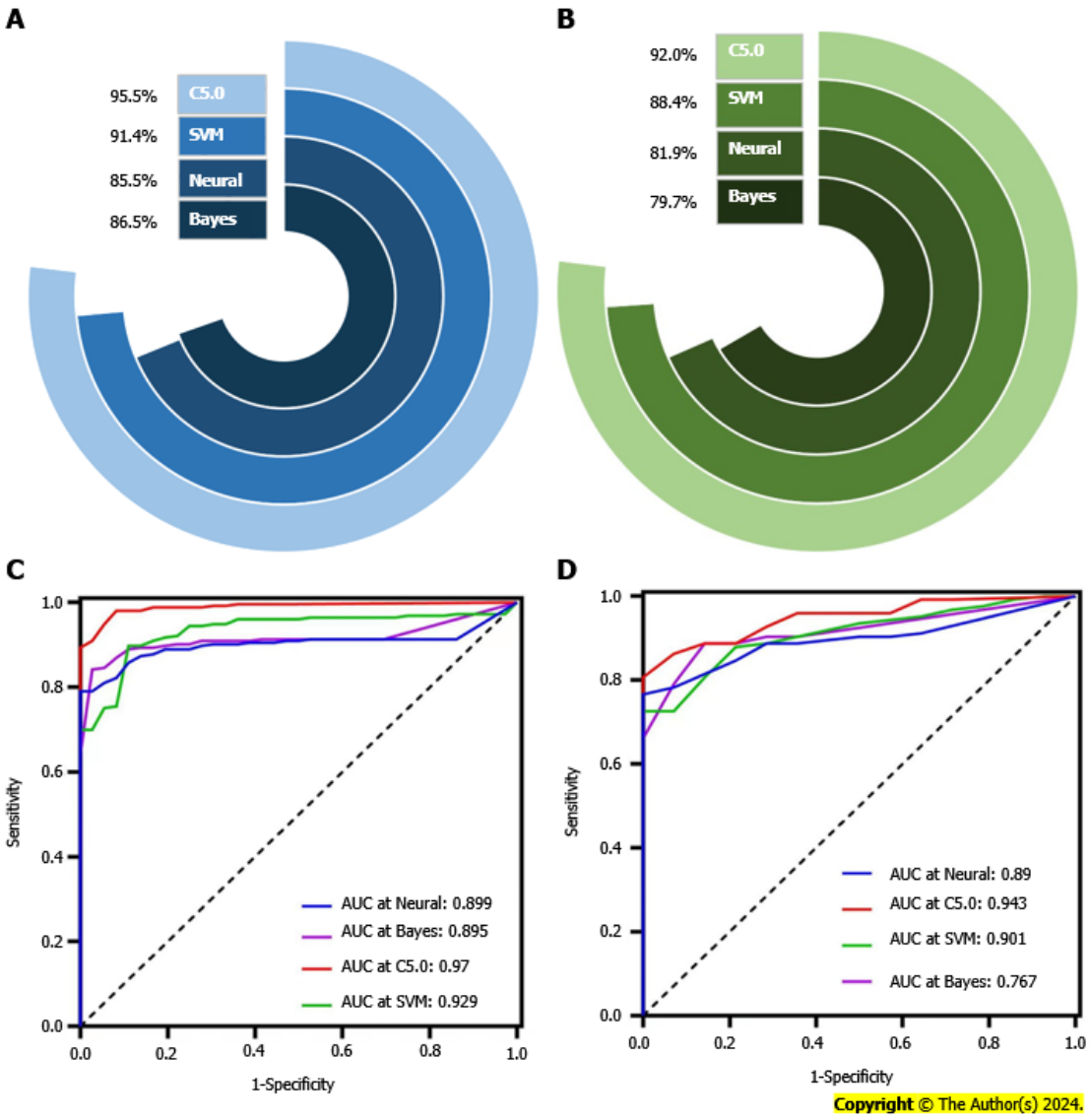


Supplementary Figure 5 Stratification by PD1 and CTLA4 status showed significant differences in the IPS between the XPO5 expression groups (A),

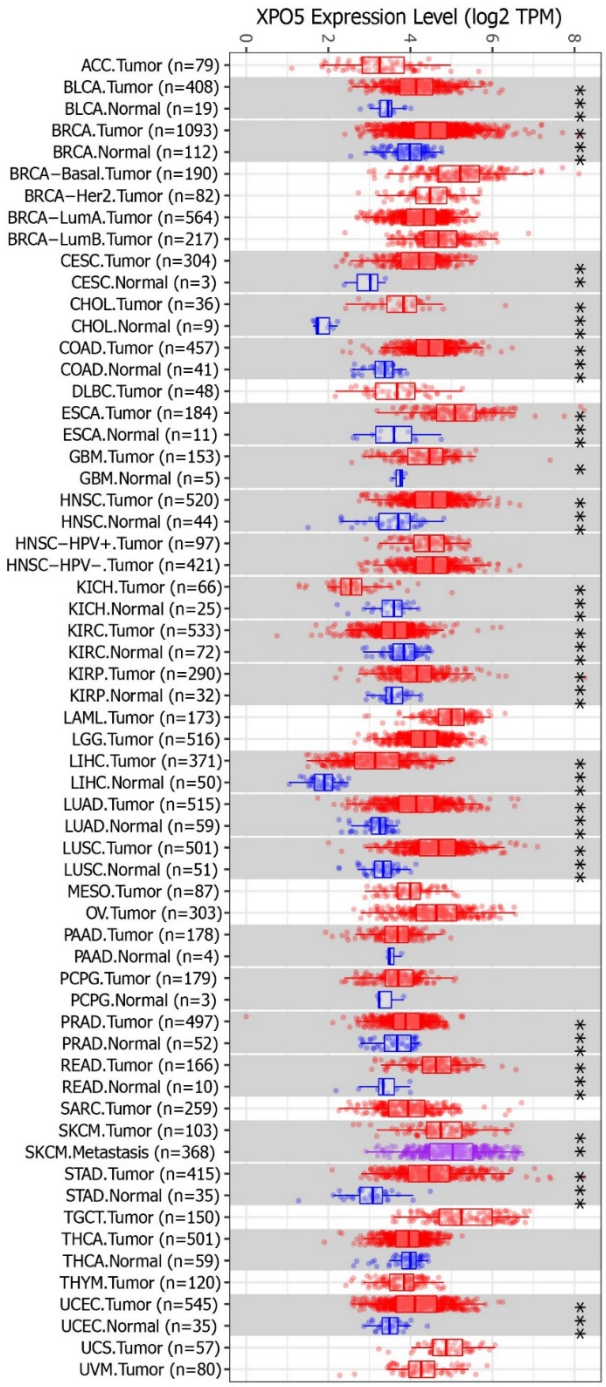
with a negative correlation between XPO5 expression and chemotherapeutic sensitivity (B).



Supplementary Figure 6 Evaluation of prognosis in patients with HCC using machine learning and mechanism prediction.

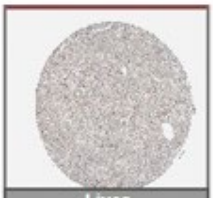


Supplementary Figure 7 KICH and KIRC cells exhibited decreased XPO5 expression.



Supplementary Figure 8 Further analysis, supported by immunohistochemistry data from the Human Protein Atlas, showed that XPO5 was substantially upregulated in the nucleus and cytoplasm of tumor cells, in contrast to the para-cancer and HCC tissues

A



Liver

HPA023959

Female, age 54
Liver (T-56000)
Normal tissue, NOS (M-00100)
Patient id: 3402

Cholangiocytes

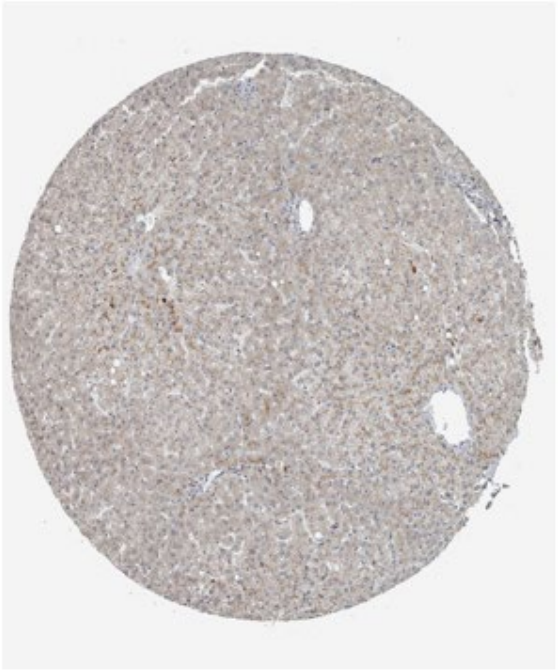
Staining: **Not detected**

Intensity: **Negative**
Quantity: **None**

Hepatocytes

Staining: **Low**

Intensity: **Weak**
Quantity: **>75%**
Location: **Cytoplasmic/membranous nuclear**



B

Liver cancer

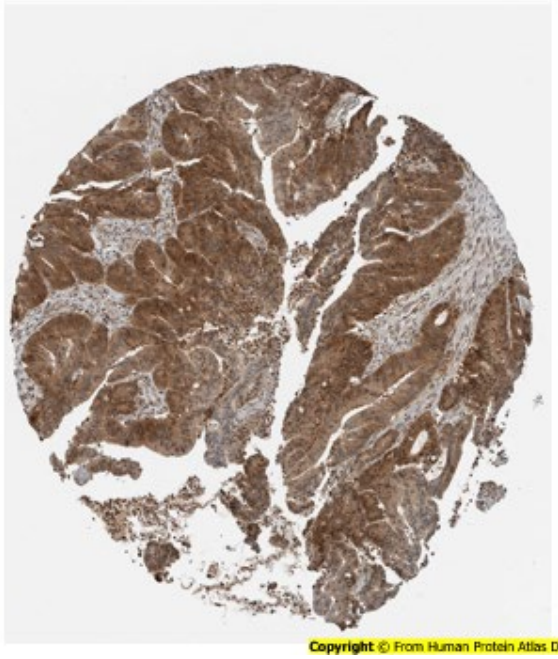
HPA023959

Female, age 73
Peripheral nerve tissue (T-X0500)
Liver (T-56000)
Cholangiocarcinoma (M-81603)
Normal tissue, NOS (M-00100)
Patient id: 2279

Tumor cells

Staining: **High**

Intensity: **Strong**
Quantity: **>75%**
Location: **Cytoplasmic/membranous nuclear**



Supplementary Table 1 Primers used in Quantitative Real-Time PCR

Primers	**Sequence (5′→3′)**	
XPO5	Forward	5′-CTCAGACCCATGCTTCGTGT-3′
	Reverse	5′-GGGCTTCATAGTGCTCTGGG-3′
GAPDH	Forward	5′-GGTCTCCTCTGACTTCAACA-3′
	Reverse	5′-GTGAGGGTCTCTCTCTTCCT-3′