

Supplementary Table 1. List of published trials to study the therapeutic monitoring via liquid biopsy in hepatocellular carcinoma

NCT number	Title	Status	Estimated enrollment/perspective	Study details
NCT04111029	Liquid Biopsy in Hepatocellular Carcinoma (HCCGenePanel)	Recruiting	30/prospective	First LRT* with or without Sorafenib for HCC, measure ctDNA
NCT05375370	Prediction of Hepatocellular Carcinoma Recurrence After Curative Treatment by Monitoring Circulating Tumor DNA	Not yet recruiting	150/interventional	Evolution of ctDNA [†] change at baseline, 4 months, 6 months after surgery
NCT05390112	Cohort Study of Patients With Hepatocellular Carcinoma and Circulating Tumor DNA Monitoring of Chemoembolization	Recruiting	167/prospective	Radiological response at 1 month according to mRECIST [‡] and ctDNA detection
NCT03493763	Study on Recurrence Monitoring of Hepatocellular Carcinoma With 5-Hydroxymethylcytosine Test	Unknown status	300/retrospective	Time of hepatocellular carcinoma recurrence, 5 hmC [§] level after liver resection/AFP
NCT03956940	Analysis of cfDNA in Patients With Hepatocarcinoma and Treated by Sorafenib or Regorafenib	Terminated	18/interventional	Sorafenib-Regorafenib Sequence Treatment Monitoring Study, cfDNA concentration at baseline, after
NCT03708705	Liquid Biopsy-based Monitoring System for Relapse of HCC After Liver Transplantation: A Multi-center and Prospective Study	Unknown status	500/prospective	Liquid Biopsy-based Monitoring System for Relapse of Hepatocellular Carcinoma Associated with Hepatitis B After Liver Transplantation
NCT038839706	Relationship Between 18FDG PET/MRI Patterns and ctDNA to Predict HCC Recurrence After Liver Transplantation	Recruiting	20/interventional	18F-Fluorodeoxyglucose Positron Emission Tomography Magnetic Resonance Imaging Patterns and Circulating Tumor DNA to Predict Hepatocellular Carcinoma Recurrence After Liver Transplantation
NCT02036216	Circulating Cell-free DNA as a Predictive Biomarker for Hepatocellular Carcinoma.	Unknown status	200/retrospective	Preoperative, postoperative (2 weeks) and postoperative (1 month), cfDNA mutations for predictive marker
NCT04965454	Evaluation of Treatment Predictors Reflecting Beta-catenin Activation in Hepatocellular Carcinoma	Recruiting	80/interventional	Fluorine-18 fluorocholine PET/CT and cell-free DNA mutation profiling monitoring in immune checkpoint inhibitor therapy
NCT04506398	Heterogeneity and Evolution of hepatocellular Carcinoma in Post-transplant HCC Recurrence	Recruiting	40/retrospective+prospective	Molecular-subtype heterogeneity between primary HCC and post-transplant HCC recurrence, molecular subtype
NCT04499833	HepatoPredict Prognostic Tool for the Decision of Liver Transplant in Hepatocellular Carcinoma	Recruiting	40/prospective	Recurrence after transplantation (6 months after)
NCT05371873	A Study of Chromosomal Abnormalities as a Predictor of Staging and Prognosis in Patients With Liver Cancer	Enrolling by invitation	250/prospective	cfDNA monitoring after liver resection (4 years), use UCAD [¶] pipeline, prediction efficacy testing
NCT04800497	The Role Of Circulating Tumor Cells As Markers Of Advanced Disease And Prognosis In HCC	Recruiting	200/prospective	Circulating tumor cells and recurrence/survival

Supplementary Table 1. Continued

NCT number	Title	Status	Estimated enrollment/perspective	Study details
NCT05292443	Therapeutic Resistance and Clonal Evolution Assessed With Liquid Biopsy in ICIs Treated Primary Liver Cancer	Recruiting	300/prospective	Immune checkpoint inhibitors at first-line setting (n=200) or second-line setting (N=100), before and after the first cycle of immune checkpoint inhibitor treatment, the dynamic changes of blood Tumor Mutation Burden, ctDNA and the composition of immune cells
NCT03020342	HBV-host cfDNA as Minimal Residual Tumor Marker for HBV-related HCC	Unknown status	50/prospective	New Biomarker for Detection of Minimal Residual Tumor in Hepatitis-B Virus Related Hepatocellular Carcinoma After Curative Therapies: cfHBV-host Chimera DNA Fragment, 4weeks after surgery
NCT04152356	Combined Immunotherapy and Targeted Therapy for Hepatocellular Carcinoma	Unknown status	50/prospective	Immunotherapy after surgery and control group. 7 CTCs tests before, 7 days after surgery and 1st, 3rd, 6th, 9th, and 12th postoperatively.
NCT03958669	Fingerprint Characterization Tyrosine Kinase Inhibitors in Advanced HCC	Recruiting	40/prospective	Fingerprint analysis of HCC tumor tissue to predict tyrosine kinase inhibitor therapy responses

*Locoregional therapy; [†]Tricyclo-DNA; [‡]Modified response evaluation criteria in solid tumors; [§]Hydroxymethylcytosine; [¶]Chromosomal aneuploidy detector.