

# Sorafenib treatment alters immunosuppressive phenotypes in hepatocellular carcinoma

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Hepatocellular carcinoma (HCC) is the most common form of liver cancer and results from long-term damage and fibrosis, such as is caused by chronic alcohol abuse and viral-induced hepatitis. Patients with advanced HCC are often given the drug sorafenib, which targets vascular endothelial growth factor (VEGF) and other kinases to prevent blood vessel growth in the tumor. Recent studies indicate that sorafenib can also alter immune cell function in patients.

In this issue of *JCI Insight*, Yasmin Thanavala and colleagues at Roswell Park Cancer Institute evaluated the [immune response](#) in a small cohort of patients with advanced HCC before and after treatment with [sorafenib](#).

Sorafenib treatment was associated with a reduction in immune-suppressive phenotypes, including decreased expression of PD-1, which dampens the responsiveness of a group of immune cells that can attack the tumor (known as effector T cells), fewer immune cells that dampen immune responses (regulatory T cells), and lower levels of factors that suppress immune system activity.

Several of these responses were associated with increased overall survival.

Together, the results of this study indicate that evaluation of HCC

patient immune phenotypes before and after sorafenib can help predict treatment outcome.

**More information:** Suresh Gopi Kalathil et al, PD-1+ and Foxp3+ T cell reduction correlates with survival of HCC patients after sorafenib therapy, *JCI Insight* (2016). [DOI: 10.1172/jci.insight.86182](https://doi.org/10.1172/jci.insight.86182)

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