POINT OF VIEW

# Seeing a Bigger Picture: Bringing the Hallmarks of Cancer from Bench to Brand


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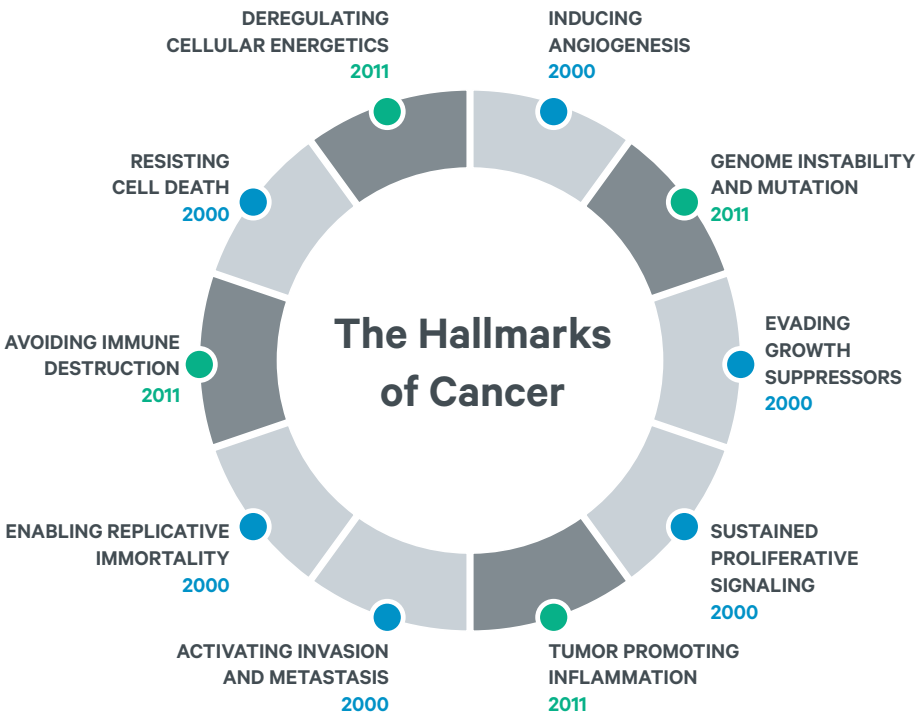
Nearly 20 years have passed since Hanahan and Weinberg published their seminal paper, "The Hallmarks of Cancer." The frequently cited article provided an enduring and navigable framework for the way scientists think about the seemingly impenetrable complexities of tumor development and progression. In 2011, the authors updated the list with "emerging" hallmarks of cancer (Figure 1), which reflected the extensive academic research in the time since the original publication.




The proposed model is still as influential as ever for the scientific community: countless research publications have supported, furthered, challenged, and critiqued the "Hallmarks of Cancer" framework. However, this holistic view of cancer has largely stayed within the academia, while pharmaceutical marketing to the oncology community often zooms in too granularly on specific mutations and biomarkers in lieu of the bigger picture.

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As measurable indicators of a medical state, biomarkers are now commonly used for subgroup classification, prognostic stratification, and therapeutic choice for patients with different types of cancer. A classic example of this is Gleevec (imatinib), which was approved in 2001 for patients with chronic myelogenous leukemia who were positive for the Philadelphia chromosome, a biomarker that can be measured by long-used techniques. In the early 2000s, advances in DNA sequencing led to a seemingly endless reservoir of data, resulting in the identification of genetic biomarkers for many cancers and other diseases. High-quality comprehensive genomic profiling now allows clinicians to personalize treatment strategies for cancer patients across a range of tumors. Advances in next-generation sequencing and other platforms have led to the development of novel, targeted therapies that can be pulled from the oncologists' ever-evolving armamentarium.

In an era where we are moving more and more toward precision medicine, mutations and biomarkers can clearly inform treatment strategies. Yet, it is important to remember that targeted therapies ultimately impact proteins that affect the various cancer hallmarks, as it is the dysregulated protein made from the aberrant DNA that causes a key cellular pathway to function abnormally. When marketing targeted therapies or diagnostic biomarker tests to oncologists, it is important to consider how the targeted therapy is ultimately a disruption to the pathways instigating the hallmarks of cancer, rather than just an interruption of a single protein's function or interactions.

This is particularly true when considering the use of combination therapies. It is increasingly clear that as cancer evasion occurs through a variety of mechanisms, combinations of traditional chemotherapies, targeted therapies, and/or the new immuno-oncology therapies will be needed to effectively treat the majority of patients. When marketing to HCPs, it is important to consider how combinations affect the individual pathways and the hallmarks of cancer as a whole.

We live in an exciting time where advances in molecular biology and precision medicine have resulted in cancer therapies with ever-increasing specificity and rationality. At Evoke, we are fortunate to work with a range of oncology brands, each with their own unique story. To bridge the gap between academia and clinical practice, we are conscious of the need to tell comprehensive brand narratives that are both specific to the nuances of each treatment and grounded in the broader context of the disease state.

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