



does VEGF cause cancer

Vascular endothelial growth factor (VEGF) does not by itself "cause" cancer, but high or dysregulated VEGF strongly promotes the growth and spread of cancers once they are present. [\[1\]](#) [\[2\]](#) [\[3\]](#)

What VEGF normally does

VEGF is a **signaling** protein your body uses to grow new blood vessels, especially during development, wound healing, and in response to low oxygen. It is essential for normal physiology and is produced by many healthy tissues. [\[2\]](#) [\[4\]](#) [\[3\]](#)

VEGF and cancer risk

Genetic studies of people with naturally higher circulating VEGF levels show a modest but real increase in the risk of some cancers, especially colorectal cancer and colon adenocarcinoma. For most other major cancers in these studies, elevated VEGF was not clearly linked to higher incidence, suggesting VEGF alone is not a primary initiating cause. [\[1\]](#)

How VEGF helps tumors

Once a tumor forms, VEGF becomes a key driver of:

- Tumor angiogenesis (building new, abnormal blood vessels to feed the tumor). [\[3\]](#) [\[2\]](#)
- Increased vessel leakiness, making it easier for cancer cells to enter the bloodstream. [\[5\]](#) [\[2\]](#) [\[3\]](#)
- Invasion and metastasis, including via VEGF-B-driven vascular remodeling that promotes spread to distant organs. [\[5\]](#) [\[3\]](#)
- Cancer cell survival and "stem-like" behavior, which can support resistance to treatment and more aggressive disease. [\[6\]](#) [\[7\]](#) [\[3\]](#)

Because of this, VEGF is often described as a critical factor in cancer progression rather than the original cause. [\[8\]](#) [\[2\]](#) [\[3\]](#)

Clinical implications

- Many solid tumors show higher VEGF levels, and blood VEGF can correlate with tumor burden or aggressiveness. [\[4\]](#) [\[8\]](#) [\[3\]](#)
- Several approved cancer drugs are VEGF or VEGF-receptor inhibitors (angiogenesis inhibitors) that aim to starve tumors of their blood supply and slow growth or metastasis. [\[9\]](#) [\[3\]](#)

Bottom line

VEGF is necessary for normal blood vessel biology and does not, on its own, initiate most cancers. However, when overproduced or dysregulated in the tumor environment, it significantly fuels tumor growth, spread, and worse outcomes, which is why it is a major target in cancer therapy. ^{[2] [9] [3] [1] [5]}



1. <https://pmc.ncbi.nlm.nih.gov/articles/PMC9489904/>
2. <https://pmc.ncbi.nlm.nih.gov/articles/PMC3845619/>
3. <https://www.sciencedirect.com/science/article/pii/S0014299923000973>
4. <https://www.nature.com/articles/6603923>
5. <https://www.pnas.org/doi/10.1073/pnas.1503500112>
6. <https://news.med.miami.edu/stopping-vegf-a-cancer-super-villain/>
7. <https://ashpublications.org/blood/article/105/4/1383/20352/The-pathophysiologic-role-of-VEGF-in-hematologic>
8. <https://aacrjournals.org/clincancerres/article/13/10/2825/194123/Vascular-Endothelial-Growth-Factor-and-Its>
9. <https://www.cancer.gov/about-cancer/treatment/types/immunotherapy/angiogenesis-inhibitors-fact-sheet>
10. <https://www.sciencedirect.com/science/article/pii/S1044579X22000670>