Lenalidomide displays anti-inflammatory, anti-angiogenic, immunosuppressive, and anticancer chemotherapeutic benefits in the treatment of multiple myeloma and myelodysplastic syndromes associated with chromosome 5q deletions. Lenalidomide is a derivative of thalidomide and is also currently in clinical trials as a potential treatment for several lymphomas and leukemias; like thalidomide, it may inhibit TNF-α and cereblon. In vitro, lenalidomide upregulates both BH3-interacting domain death agonist (BID) and FOS and downregulated NKX2-1, increasing apoptosis and inhibiting cell proliferation. Additionally, this compound inhibits VEGF-induced PI3K-Akt signaling as well as expression of HIF-1α.

References

