Meet the Marker: HHV-8



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HHV-8, also known as Human Herpesvirus 8, is a virus associated with the development of Kaposi's sarcoma, a type of vascular cancer.<sup>5,7</sup> For this reason, it is also referred to as Kaposi's sarcoma-associated herpesvirus (KSHV).<sup>6</sup> HHV-8 has also been associated with the development of HHV-8-associated multicentric Castleman disease.<sup>4</sup> These conditions mainly affect immunocompromised individuals, such as those infected with HIV/AIDS or patients undergoing immunosuppressive therapies.

Kaposi's sarcoma is a type of cancer that causes lesions in the skin, lymph nodes, mouth, GI tract, or respiratory tract.<sup>3</sup> These lesions often appear purple due to the presence of new blood vessels and blood cells.<sup>3</sup>

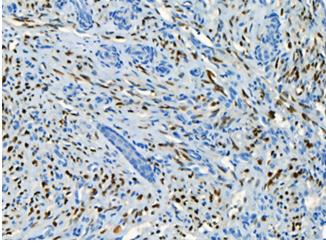
Since HHV-8 infection is a known precursor for the development of Kaposi's sarcoma (KS), IHC staining for HHV-8 can aid in confirming a diagnosis. HIC staining for HHV-8 can also help differentiate KS from benign vascular lesions and other similar vascular cancers such as angiosarcoma or spindle cell tumors. 3,5

Castleman disease is a rare disorder of the lymph nodes wherein non-cancerous growths form in the patient's lymph node tissues.<sup>4</sup> If the disease affects only one group of lymph nodes, it is referred to as unicentric Castleman disease (UCD).<sup>4</sup> If the disease affects many groups of lymph nodes throughout the body, it is referred to as multicentric Castleman disease (MCD).<sup>4</sup>

Patients who are immunocompromised either through HIV infection or other immunosuppressive treatments are more susceptible to HHV-8-associated MCD, a subtype of MCD associated with uncontrolled HHV-8 infection.<sup>1,4</sup> In this case, the causative mechanism is believed to be HHV8 infection of immune cells within the lymph nodes, causing inflammatory activation that leads to dysfunction.<sup>1,2</sup>

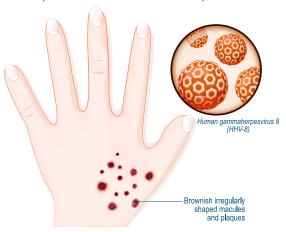
More recently, studies have suggested that HHV-8 infection may be linked to the development of primary effusion lymphoma (PEL), a rapidly progress non-Hodgkin's B-cell lymphoma.<sup>2</sup>

## HHV-8 Stains and Illustrations





## Kaposi's Sarcoma-associated Herpesvirus



To learn more about Biocare's offerings for HHV-8 markers, please visit our website at biocare.net or call 1-800-799-9499 Option 3.

<sup>1.</sup> Bacon, C.M., Miller, R.F., Noursadeghi, M., McNamara, C., Du, M.-Q. and Dogan, A. (2004), Pathology of bone marrow in human herpes virus-8 (HHV8)-associated multicentric Castleman disease. British Journal of Haematology, 127: 585-591. https://doi.org/10.1111/j.1365-2141.2004.05230.x

<sup>2.</sup> Calabró, M. L., & Sarid, R. (2018). Human Herpesvirus 8 and Lymphoproliferative Disorders. Mediterranean journal of hematology and infectious diseases, 10(1), e2018061. https://doi.org/10.4084/MJHID.2018.061

<sup>3.</sup> Hong, A., Davies, S., & Lee, C. S. (2003). Immunohistochemical detection of the human herpes virus 8 (HHV8) latent nuclear antigen-1 in Kaposi's sarcoma. Pathology, 35(5), 448-450. ISSN 0031-3025. https://doi.org/10.10

<sup>4.</sup> Huang, G., & Low, G. (2015). Human Herpes Virus-8-Associated Multicentric Castleman's Disease in a Human Immunodeficiency Virus-Positive Patient with a Previous History of Kaposi's Sarcoma. Journal of clinical imaging science, 5, 59. https://doi.org/10.4103/2156-7514.168713

<sup>5.</sup> Lee, K. B., Lee, K. S., & Lee, H. S. (2019). Tumor-Associated Protein Profiles in Kaposi Sarcoma and Mimicking Vascular Tumors, and Their Pathological Implications. International journal of molecular sciences, 20(13), 3142. https://doi.org/10.3390/jims20133142

<sup>6.</sup> Mesri, E. A., Cesarman, E., & Boshoff, C. (2010). Kaposi's sarcoma and its associated herpesvirus. Nature reviews. Cancer, 10(10), 707–719. https://doi.org/10.1038/nrc2888

<sup>7.</sup> Pantanowitz, L., Caponetti, G., Dezube, B.J. (2010). The Immunohistochemistry of Kaposi's Sarcoma. In: Hayat, M. (eds) Methods of Cancer Diagnosis, Therapy, and Prognosis. Methods of Cancer Diagnosis, Therapy and Prognosis, vol 6. Springer, Dordrecht. https://doi.org/10.1007/978-90-481-2918-8\_33