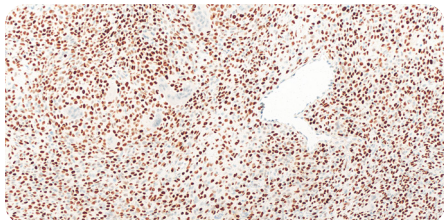
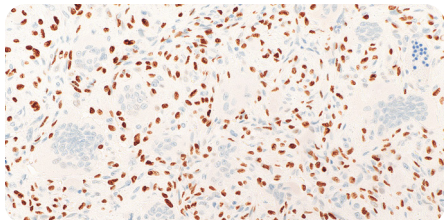
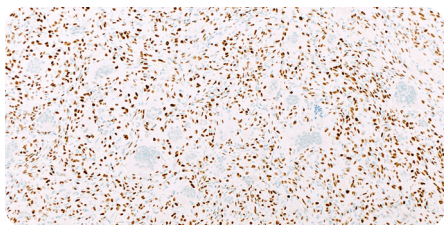


Cell Marque™ Tissue Diagnostics

Spotlight On: H3 K36M and H3.3 G34W



Images (top to bottom)

1. H3.3 G34W on giant cell tumor of the bone
2. H3.3 G34W on giant cell tumor of the bone
3. H3 K36M on chondroblastoma

Intended Use

These antibodies are intended for *in vitro* diagnostic (IVD) use.

Each antibody is intended for laboratory use in the detection of the target protein in formalin-fixed, paraffin-embedded tissue stained in qualitative immunohistochemistry (IHC) testing.

The results using this product should be interpreted by a qualified pathologist in conjunction with the patient's relevant clinical history, other diagnostic tests and proper controls.

Recent advancements in soft tissue and bone tumor diagnostics have highlighted the critical role of histone mutations as biomarkers. Chondroblastomas and giant cell tumors of bone (GCTB) are rare neoplasms. Chondroblastomas are benign but locally aggressive tumors that arise in the epiphyses of long bones, while GCTBs are characterized by osteoclast-like giant cells and can exhibit unpredictable behavior, including local recurrence and, in rare cases, metastasis. The ability to detect these mutations via immunohistochemistry has significantly improved the precision of diagnosing these challenging neoplasms. Cell Marque is pleased to introduce two new rabbit monoclonal antibodies for these applications: H3 K36M (RM193) and H3.3 G34W (RM263), designed to enhance diagnosis in bone and soft tissue pathology.

H3 K36M (RM193):

The H3 K36M mutation is predominantly found in chondroblastomas. This mutation involves the substitution of lysine (K) with methionine (M) at position 36 of the histone H3 protein. Immunohistochemical staining using the H3 K36M antibody has demonstrated for chondroblastomas, aiding in their differentiation from other bone and soft tissue tumors.

H3.3 G34W (RM263):

The H3.3 G34W mutation is a hallmark of giant cell tumor of bone (GCTB), characterized by the substitution of glycine (G) with tryptophan (W) at position 34 in the histone H3.3 variant. This mutation is present in approximately 90% of GCTB cases. Immunohistochemical detection using the H3.3 G34W antibody provides a reliable method for distinguishing GCTB from other giant cell-rich lesions.

Benefits of H3 K36M and H3.3 G34W:

- For *in vitro* diagnostic use
- Specific nuclear staining
- Rabbit monoclonal technology

Ordering Information

Description	H3 K36M Cat No.	H3.3 G34W Cat No.
0.1 mL concentrate	495R-14	493R-14
0.5 mL concentrate	495R-15	493R-15
1.0 mL concentrate	495R-16	493R-16
1.0 mL predilute ready-to-use	495R-17	493R-17
7.0 mL predilute ready-to-use	495R-18	493R-18

References

1. Behjati S, Tarpey PS, Presneau N, et al. "Distinct H3F3A and H3F3B driver mutations define chondroblastoma and giant cell tumor of bone." *Nat Genet.* 2013 Dec;45(12):1479-82. doi: 10.1038/ng.2814.
2. Yamamoto H, Iwasaki T, Yamada Y, et al. "The H3F3 K36M mutant antibody is a sensitive and specific marker for chondroblastoma." *Histopathology.* 2016 Apr;68(5):744-7. doi: 10.1111/his.12832.
3. Yamamoto H, Iwasaki T, Yamada Y, et al. "Diagnostic utility of histone H3.3 G34W, G34R, and G34V mutant-specific antibodies for giant cell tumors of bone." *Hum Pathol.* 2018 Mar;73:41-50. doi: 10.1016/j.humpath.2017.11.020.
4. Kamble A, Hui M, Rao KN, et al. "Anti-Histone H3.3 G34W antibody is a sensitive and highly specific immunohistochemistry marker for the diagnosis of giant cell tumor of bone." *Indian J Pathol Microbiol.* 2022 Jul-Sep;65(3):617-629. doi: 10.4103/ijpm.ijpm_265_21.

The products featured are *in vitro* diagnostic (IVD) medical devices. The products featured are not available in all countries. Please contact your local sales representative or distributor for details.

USA

Toll Free: 800.665.7284
Phone: 916.746.8900
Fax: 916.746.8989
Email: service@cellmarque.com
www.cellmarque.com

CANADA

Phone: +1 916.746.8900
Fax: +1 916.746.8989
Email: international@cellmarque.com
www.cellmarque.com

MilliporeSigma

400 Summit Drive
Burlington, MA 01803

www.SigmaAldrich.com

