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DATA SHEET

# Rabbit Anti-Histone H3.3 G34W Mutant [RM263]: RM0211

**Intended Use:** For Research Use Only

**Description:** Histone H3.3 is encoded by the H3F3A gene in human. It is a highly conserved variant form of Histone H3, which replaces conventional H3 in a wide range of nucleosomes in active genes. Histone H3.3 constitutes the predominant form of histone H3 in non-dividing cells and is incorporated into chromatin independently of DNA synthesis. It is predominantly enriched near transcription end sites (TES) of genes and positively associated with transcription. Histone H3 contains a main globular domain and a long N-terminal tail and is involved with the structure of the nucleosomes of the 'beads on a string' structure. The N-terminal tail of histone H3 protrudes from the globular nucleosome core and can undergo several different types of epigenetic modifications that influence cellular processes. Mutations in Histone H3.3 have been implicated in a high proportion of malignant pediatric brain cancers. The mutant H3.3 histone disrupts epigenetic post-translational modifications near genes involved in cancer processes and in brain function. Glycine 34 to tryptophan (G34W) mutations in Histone 3.3 have been linked to the development of giant cell tumor of bone (GCTB) and also in a mosaic disorder characterized by pheochromocytomas and paragangliomas.

**Specifications:**

| | |
|---|---|
| Clone: | RM263 |
| Source: | Rabbit |
| Isotype: | IgG |
| Reactivity: | Human |
| Localization: | Nucleus |
| Formulation: | Antibody in PBS pH7.4, containing BSA and ≤ 0.09% sodium azide (NaN3) |
| Storage: | Store at 2°- 8°C |
| Applications: | IHC, ELISA, ICC/IF, WB |

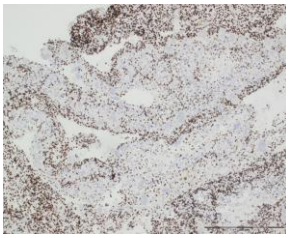
Package:

| Description | Catalog No. | Size |
|---|---|---|
| Histone H3.3 G34W Mutant [RM263] Concentrated | RM0211 | 1 ml |

**IHC Procedure*:**

| | |
|---|---|
| Positive Control Tissue: | 293T cells transfected with a DNA construct encoding Histone H3 K36M Mutant |
| Concentrated Dilution: | 10-100 |
| Pretreatment: | Citrate pH6.0 or EDTA pH8.0, 15 minutes using Pressure Cooker, or 30-60 minutes using water bath at 95°-99°C |
| Incubation Time and Temp: | 30-60 minutes @ RT |
| Detection: | Refer to the detection system manual |

* Result should be confirmed by an established diagnostic procedure.



FFPE Giant Cell Bone Tumor (GCBT) tissue stained with anti-H3.3 G34W using DAB
Image courtesy of Adrienne Flanagan, Department of Histopathology, RONH, Stanmore, Middlesex, UK

**References:**


1. The identification of H3F3A mutation in giant cell tumour of the clivus and the histological diagnostic algorithm of other clival lesions permit the differential diagnosis in this location. Scotto di Carlo F, et al. BMC Cancer. 10.1186/s12885-018-4291-z, 2018.
2. H3F3A (Histone 3.3) G34W Immunohistochemistry A Reliable Marker Defining Benign and Malignant Giant Cell Tumor of Bone. . Fernanda Amary, et al. Am J Surg Pathol. Aug; 41(8): 1059–1068, 2017.
3. Giant Cell Tumours of Bone Treated with Denosumab: Histologic, Immunohistochemical, and H3F3A Mutation Analyses. Kato I, et al. Histopathology. 10.1111/his.13448, 2017.





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