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DATA SHEET

Rabbit Anti-Histone H3.3 G34V Mutant [MD258R]: RM0223

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 arginine/valine (G34R/V) mutations in Histone 3.3 drive deadly gliomas which are neuronal malignancies where interneuron progenitors are stalled in differentiation by G34R/V mutations and malignant gliogenesis is promoted by co-option of a potentially targetable pathway, PDGFRA signaling.

Specifications:

Clone:	MD258R
Source:	Rabbit
Isotype:	IgG
Reactivity:	Human
Immunogen:	Synthetic peptide corresponding to Histone H3.3 G34V mutant
Localization:	Nucleus
Formulation:	Antibody in PBS pH7.4, containing BSA and ≤ 0.09% sodium azide (NaN3)
Storage:	Store at 2°- 8°C
Applications:	IHC, Flow Cyt., ICC/IF, IP, WB

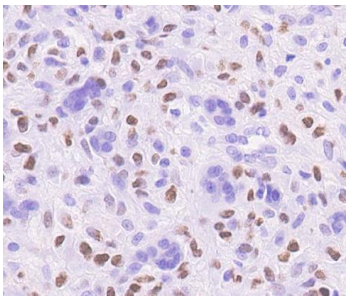
Package:

Description	Catalog No.	Size
Histone H3.3 G34V Mutant Concentrated	RM0223	1 ml

IHC Procedure*:

Positive Control Tissue:	Giant tumor of bone tissue, glioblastoma tumor
Concentrated Dilution:	25-100
Pretreatment:	Tris EDTA pH9.0, 15 minutes Pressure Cooker or 30-60 minutes 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 human giant cell tumor of bone tissue stained with anti-H3.3 G34V using DAB

References:

1. Histone H3.3G34-Mutant Interneuron Progenitors Co-opt PDGFRA for Gliomagenesis. Carol C L Chen, et al. Cell. Dec 10;183(6):1617-1633.e22, 2020.
2. Histone H3 Mutations: An Updated View of Their Role in Chromatin Deregulation and Cancer. Brandon R. Lowe, et al. Cancers (Basel). May; 11(5): 660, 2019.

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