

H3.3G34R Mononucleosome, Biotinylated

Catalog No	16-0346	Species	Human
Lot No	22167005-01	Source	<i>E. coli</i> & synthetic DNA
Pack Size	50 µg	Tag	Biotinylated
Concentration	4.82 µM	MW	199,905.16 Da

DESCRIPTION

H3.3 is a histone variant found in regions of high chromatin turnover outside of S-phase (e.g. at actively transcribed genes). The substitution of R for G at position 34 of H3.3 interferes with SETD2-mediated H3K36 methylation. This mutation has been associated with bone cancers and astrocytomas[1]. H3.3G34R Mononucleosomes consist of 147 base pairs of DNA wrapped around an octamer of core histone proteins (two each of H2A, H2B, H3.3G34R and H4) to form a nucleosome, the basic repeating unit of chromatin. The 147 bp 601 sequence, identified by Lowary and Widom [2], has high affinity for histone octamers and is useful for nucleosome assembly. The DNA in this nucleosome contains a 5' biotin-TEG group.

TECHNICAL INFORMATION

Storage	Stable for six months at -80°C from date of receipt. For best results, aliquot and avoid freeze/thaws.
Formulation	0.964 mg/mL nucleosome in 51.9 µL 10 mM Tris HCl pH 7.5, 25 mM NaCl, 1 mM EDTA, 2 mM DTT, 20% glycerol. (27.3 µg protein weight, 50 µg DNA + protein)

APPLICATION NOTES

H3.3G34R mononucleosome is highly purified and suitable for a variety of applications, including use as a substrate in enzyme assays, high-throughput screening and inhibitor testing, chromatin binding studies, protein-protein interaction assays, structural studies, and in effector protein binding experiments.

GENE & PROTEIN INFORMATION

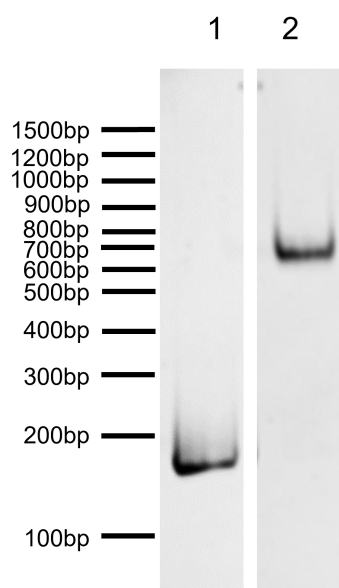
UniProt ID	H2A - P04908 (alt. names: H2A type 1-B/E, H2A.2, H2A/a, H2A/m) H2B - O60814 (alt. names: H2B K, HIRA-interacting protein 1) H3.3 - P84243 (alt. names: H3F3A, H3.3A, H3F3) H4 - P62805
-------------------	---

REFERENCES

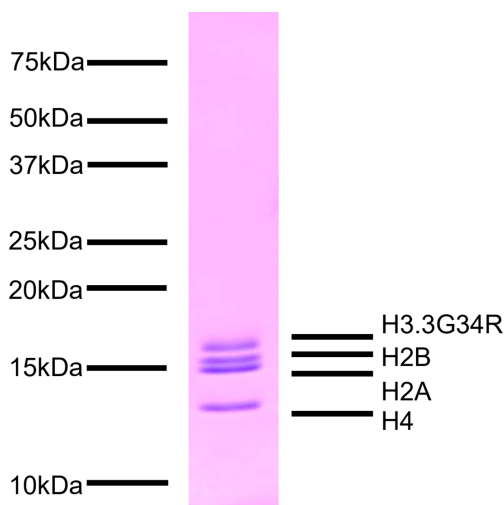
- [1] Jain et al. PNAS (2020) PMID: 33067396
[2] Lowary & Widom J. Mol. Biol. (1998) PMID: 9514715



Western Blot Data: Western analysis of H3.3G34R Mononucleosomes. **Top Panel:** Unmodified H3.3 (EpiCypher 16-0011; Lane 1) and H3.3G34R nucleosomes (Lane 2) were probed with an anti-H3.3G34R antibody. Only the H3.3G34R sample produced a detectable signal. **Bottom Panel:** Detail from Coomassie stained gel of Western blot.



DNA Gel Data: H3.3G34R Mononucleosomes resolved by Native PAGE and stained with ethidium bromide to visualize DNA. **Lane 1:** Free DNA (EpiCypher 18-0005; 100 ng). **Lane 2:** Intact H3.3G34R nucleosomes (400 ng).



Protein Gel Data: Coomassie stained PAGE gel of proteins in H3.3G34R Mononucleosomes (1 µg) demonstrates the purity of histones in the preparation. Sizes of molecular weight markers and positions of the core histones (H2A, H2B, H3.3G34R and H4) are indicated.