Nuclear Extract (HeLa)

**CATALOG NO.:** HMT-30-136

**DESCRIPTION:** A high salt extract\(^1\) of nuclei from HeLa-S3 cells (human cervical cancer line). Such extracts, in addition to containing transcription initiation factors\(^2\), comprise various enzymes and multi-enzyme complexes with epigenetic modification activities, such as histone deacetylases (HDACs) and histone methyltransferases (HMTs). (See for example\(^3\)-\(^5\) and figures below.)

**APPLICATIONS:** RBC’s HeLa Nuclear extract displays histone methyltransferase (HMT) activity in radiolabeled assays with \(^3\)H-S-adenosylmethionine and core histones or nucleosomes as substrates and deacetylase (HDAC) activity with a fluorogenic acetylated lysine substrate. (See figures below).

**SUPPLIED AS:** \_ \_ \_ mg/ml protein in 20 mM HEPES/NaOH pH 7.9, 100 mM KCl, 0.2 mM EDTA, 0.5 mM PMSF, 0.5 mM DTT, 20% glycerol (v/v).

**STORAGE:** -70°C. Thaw quickly and store on ice before use. The remaining, unused, undiluted portion should be snap frozen, for example in a dry/ice ethanol bath or liquid nitrogen. Minimize freeze/thaws if possible, but very low volume aliquots (<5 µl) or storage of diluted solutions is not recommended.


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**Methyltransferase Activity of HeLa Nuclear Extract**
Reactions (25 µL) were 60 min., 30°C with 1 µM \([\text{H}]\)-SAM and 0.05 mg/mL chicken core histones or HeLa oligonucleosomes in 50 mM Tris-HCl, pH 8.5, 50 mM NaCl, 5 mM MgCl\(_2\), 1 mM DTT, 1 mM PMSF. Activity determined as TCA-precipitable CPMs in a filter plate/scintillation assay.

**Deacetylase Activity of HeLa Nuclear Extract**
Reactions (6 µL) were 120 min., 30°C with 50 µM of a fluorogenic acetylated lysine substrate (Ac-Lys(Ac)-AMC) in 50 mM Tris-HCl, pH 8.0, 137 mM NaCl, 2.7 mM KCl, 1 mM MgCl\(_2\), 1 mg/mL BSA, 1% DMSO.

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This product is NOT intended for therapeutic or diagnostic use in animals or in humans.

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