3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone (800) 325-5832 (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

# ProductInformation

**Anti-HP1**b
Produced in Rabbit, Affinity Isolated antibody

Product Number **H 2039**

## Product Description

Anti-HP1β, is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acid residues 171-185 of human HP1β with N-terminal added cysteine, conjugated to KLH. The corresponding sequence in mouse is identical. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-HP1β recognizes human, mouse, and rat HP1β. Applications include immunoblotting (~21 kDa), immunoprecipitation, and immunofluorescence. Detection of the HP1β band by immunoblotting is specifically inhibited by the immunizing peptide.

Heterochromatin protein 1 (HP1), a major heterochromatin-associated nonhistone chromosomal protein, is implicated in gene silencing and higher order chromatin organization. Three mammalian HP1 genes have been identified: HP1α, β, and γ. HP1 isoforms differ widely in their nuclear localization, mitotic distribution, and cell cycle-related phosphorylation.[1-2] HP1 proteins are relatively small (~25 kDa) with a conserved amino-terminal chromo domain and a structurally related carboxy-terminal motif, the chromo shadow domain.[3] Both domains of HP1 are required for binding to native chromatin *in vivo*, but they contribute differentially to binding in euchromatin and heterochromatin.[1] The HP1 chromo domain selectively recognized methylated lysine 9 of histone H3. This methylation is performed by the mammalian histone methylase, SUV39H1. SUV39H1-HP1 methylation is necessary for the correct localization of HP1 at heterochromatin and for transcriptional repression.[4-5]

HP1 interacts with a variety of proteins that play a role in chromatin remodeling and transcriptional silencing. The interaction of HP 1 with the transcriptional corepressor TIFβ supports the role that HP1 may play in gene silencing.[6] HP1 was also shown to interact with the lamin B receptor (LBR). This interaction can contribute to the association of heterochromatin with the inner nuclear membrane.[7] HP1α or HP1β were also implicated in telomere stability and tumorigenicity.[6]

## Reagent

The antibody is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody concentration: ~1.0 mg/mL

## Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

## Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in “frost-free” freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

## Product Profile

By immunoblotting, a working antibody concentration of 0.5-1 µg/mL is recommended using a whole cell extract of human HeLa cells, applying a chemiluminescent detection reagent.

By indirect immunofluorescence, a working antibody concentration of 5-10 µg/mL is recommended using mouse NIH3T3.

By immunoprecipitation, 5-10 µg of the antibody can immunoprecipitate HP1β from 300 µg RIPA lysate of rat PC12 cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

**References**


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