

Анализ мутаций в гистонах

Минаков А.С., 2020

Базы данных

cBioPortal

The screenshot shows the cBioPortal website. The header includes the cBioPortal logo and navigation links: Data Sets, Web API, R/MATLAB, Tutorials/Webinars, FAQ, News, Visualize Your Data, and About. A search bar is present with the text "e.g. Lung, EGFR, TCGA-OR-A5J2". Below the search bar, there is a "Quick Search Beta" button and a "Download" button. The main content area features a "What's New" section with a tweet from OncoPrint, a "Cancer Studies" section with a link to "The portal contains 292 cancer studies", and a "Cases by Top 20 Primary Sites" section with a horizontal bar chart showing the number of cases for various cancer types: Breast, Prostate, Myeloid, Lung, CNS/Brain, Lymphoid, Bowel, Kidney, Stomach, Bladder, and Skin.

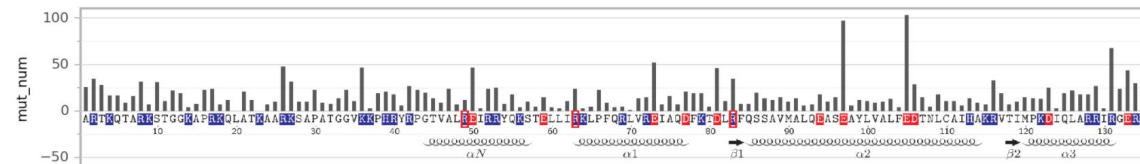
<https://www.cbioportal.org/>

NucleosomeDB

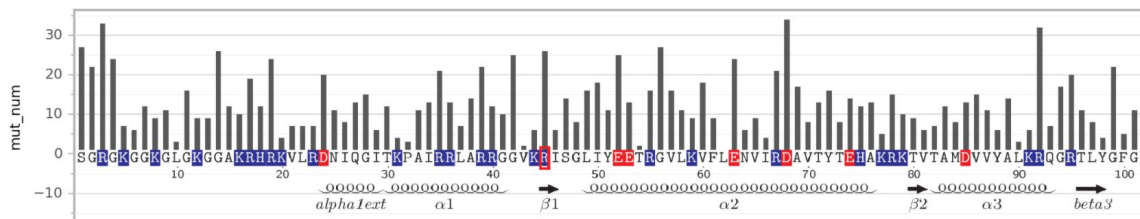
The screenshot shows the NucleosomeDB website. The header includes the NucleosomeDB logo and navigation links: Browse, Help, and Collection: 0. A search bar is present with the text "Search (e.g. DOT1L)". Below the search bar, there is a "Search" button and an "Advanced" button. The main content area features a section titled "NucleosomeDB - a database of nucleosome structures" with a description: "The database can be used to interactively explore the diversity of nucleosome structures and their complexes. NucleosomeDB provides comparative analysis of nucleosome geometry, DNA conformation and interaction contacts in a common reference frame. Structures can be search and browses by histone and DNA sequence types, interaction partners and supranucleosomal organization. To get started, use Browse, Search or explore nucleosome collections below." Below this text, there are four images showing different nucleosome structures: Core Histone Variants, DNA Sequence Variants, Nucleosome Complexes, and Supranucleosomal Complexes. The footer includes the Integrative Biology Group logo.

<https://nucldb.intbio.org/>

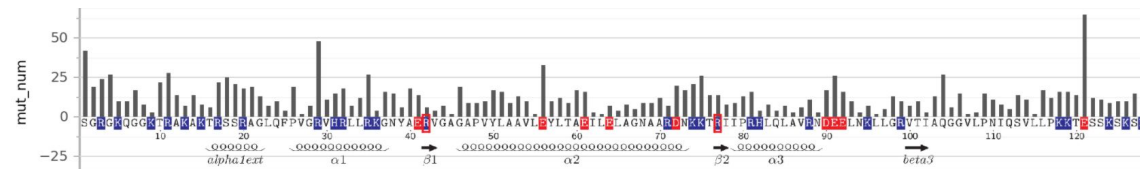
Профили мутаций



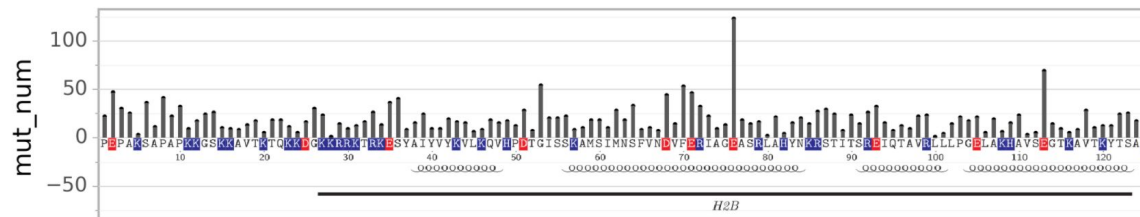
H3



H4



H2A

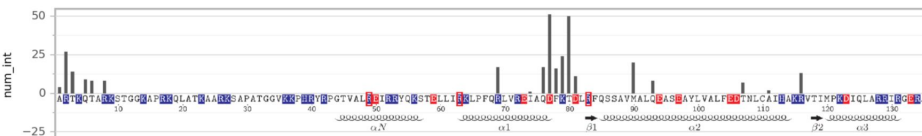


H2B

H3 взаимодействие с интеракторами

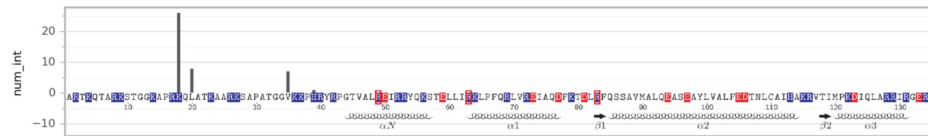
PTM writers

Segid: A, Type: H3



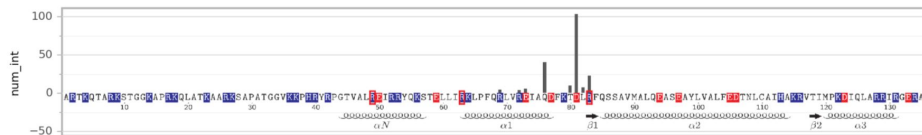
PTM readers

Segid: A, Type: H3



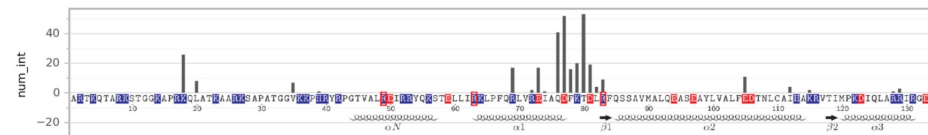
Chromatin remodelers

Segid: A, Type: H3



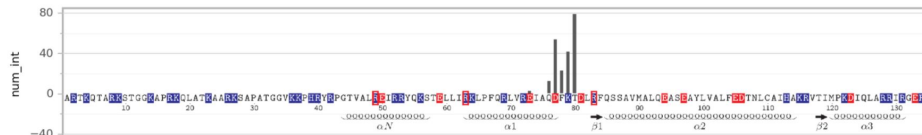
Transcription factors

Segid: A, Type: H3



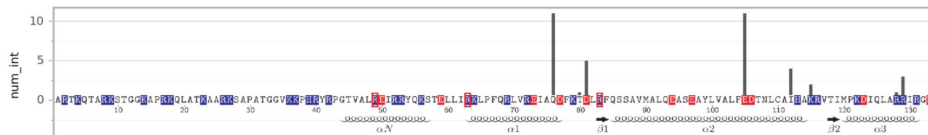
Compartment: telomeric

Segid: A, Type: H3



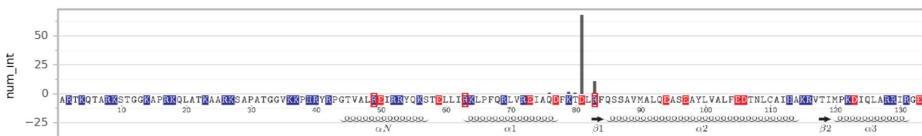
DNA repair

Segid: A, Type: H3



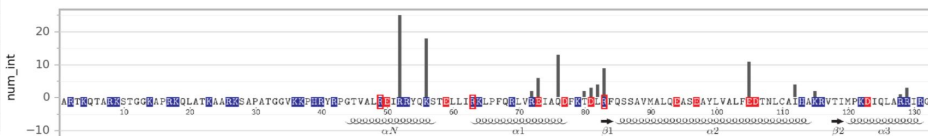
Transcription associated

Segid: A, Type: H3



Histone chaperones

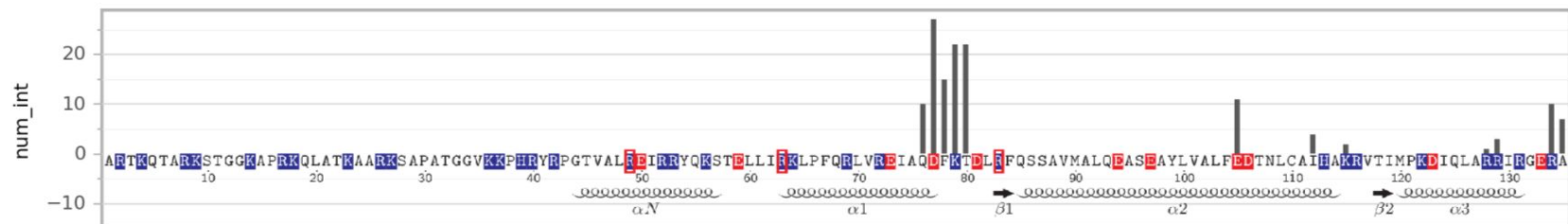
Segid: A, Type: H3



H3 взаимодействие с интеракторами

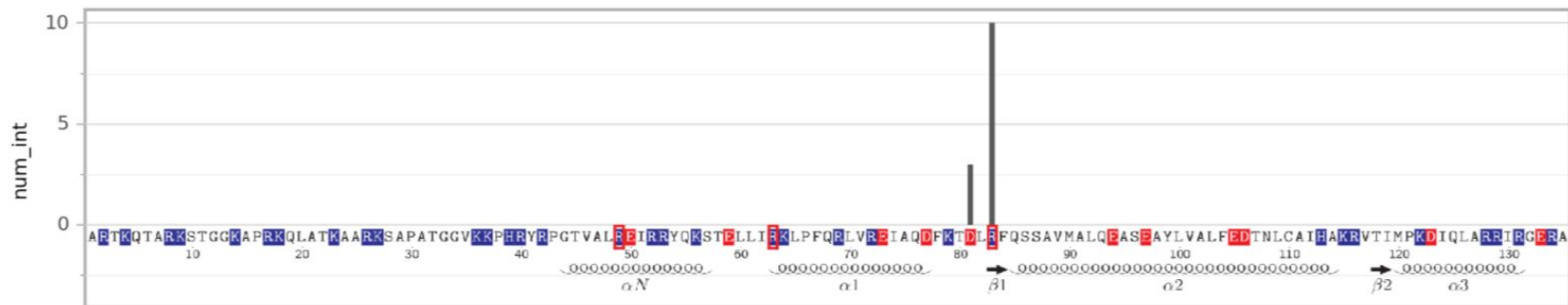
Replication associated

Segid: A, Type: H3



SNF2

Segid: E, Type: H3

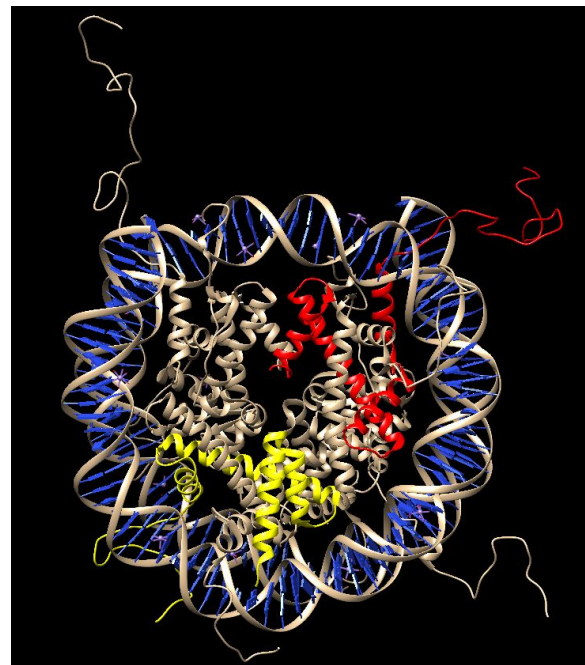


H3 контакты в нуклеосоме

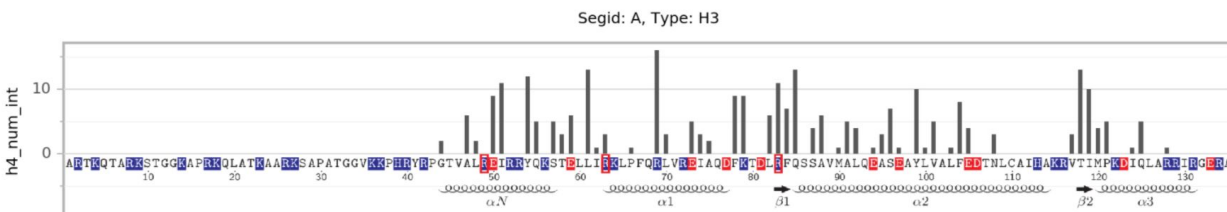
ДНК



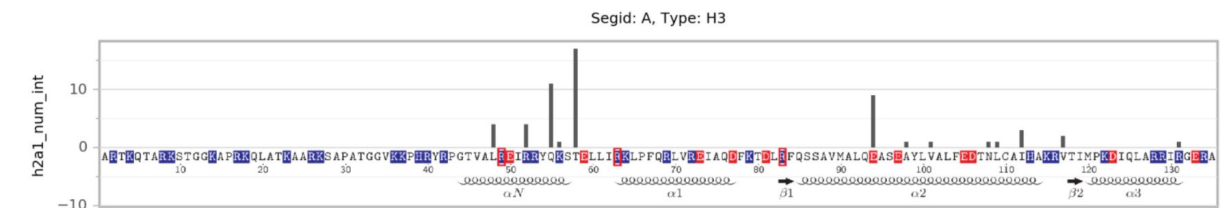
H2B



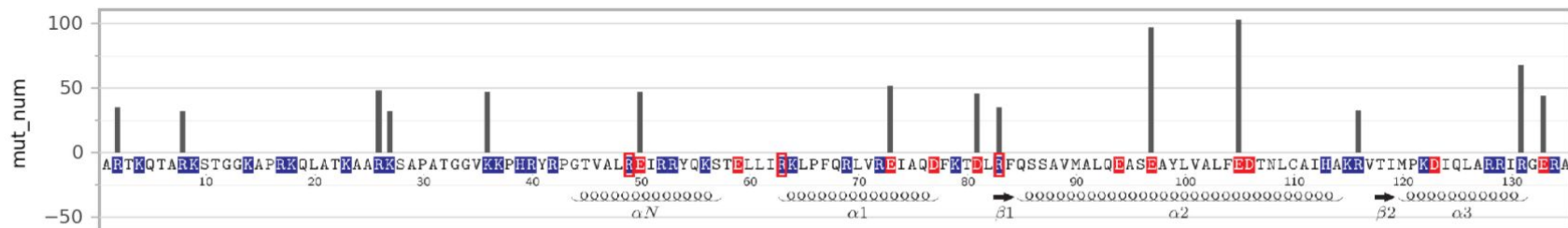
H4



H2A



10% самых часто мутирующих позиций в H3



R2 - ptm: ci, me1, me2, PTM writers

R8 - ptm: ci, me2; PTM writers

R26 - ptm: ci, me1

K27 - ptm: ac, ar, me1, me2, me3

K36 - ptm: ac, me1, me2, me3

E50 - с гистонем H4

E73 - с гистонем H4, Chromatin remodelers(мало),
Transcription factors, Compartment: telomeric(мало),
Histone chaperones

D81 - PTM writers, Chromatin remodelers, Transcription
factors, DNA repair, Transcription associated, Histone
chaperones

R83 - с ДНК, с H4, Chromatin remodelers,
Transcription factors, Transcription associated,
Histone chaperones

E97 - ?? очень много, но непонятно почему

E105 - fact complex 1 ! sin- (из статьи), Transcription
factors, DNA repair(очень сильно), Histone
chaperones, Replication associated

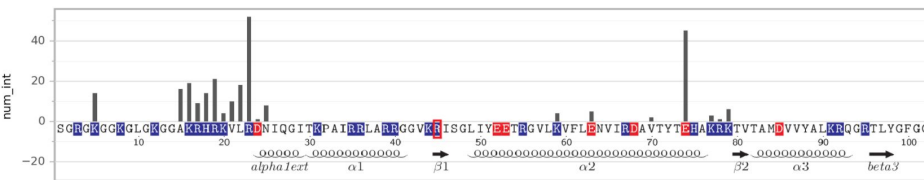
R116 - с ДНК, sin-(из статьи), PTM writers

R131 - с H2A

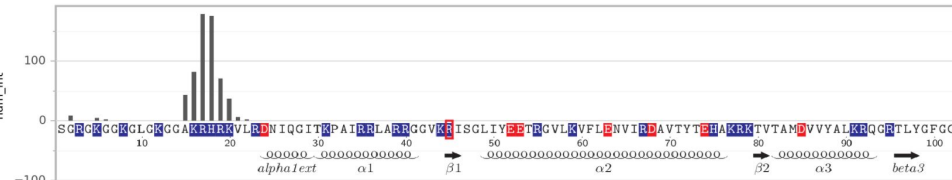
E133 - ?

H4 взаимодействие с интеракторами

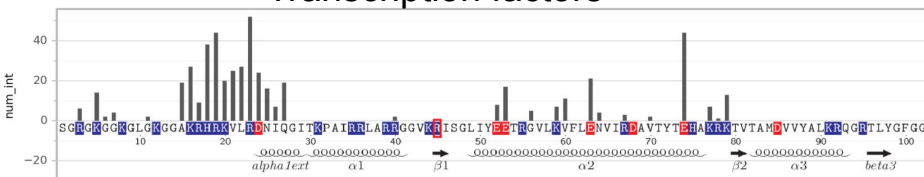
PTM writers



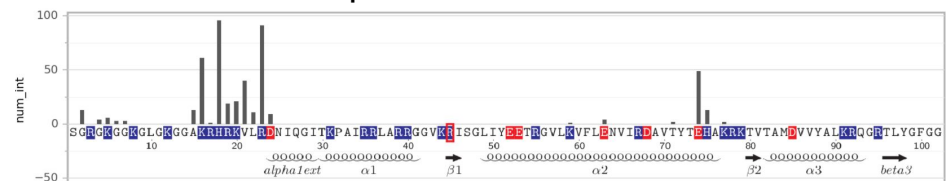
Chromatin remodelers



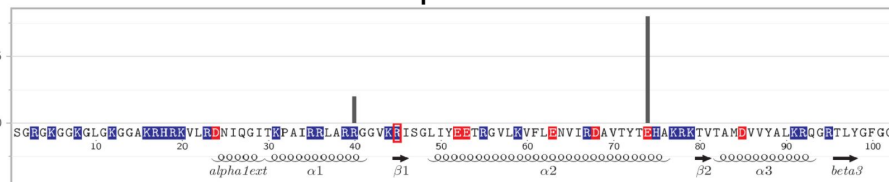
Transcription factors



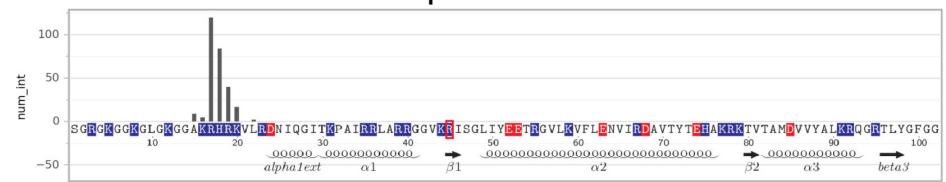
Compartment: telomeric



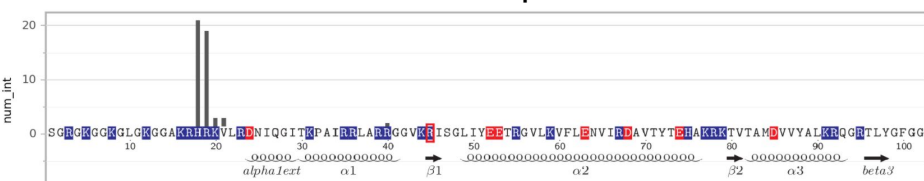
DNA repair



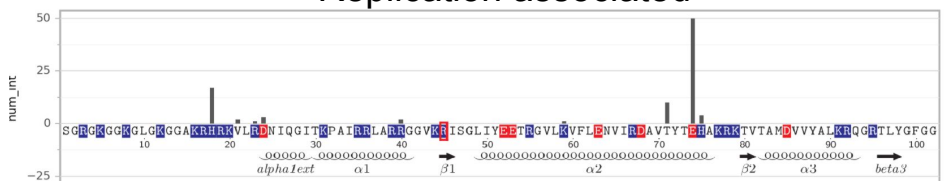
Transcription associated



Histone chaperones

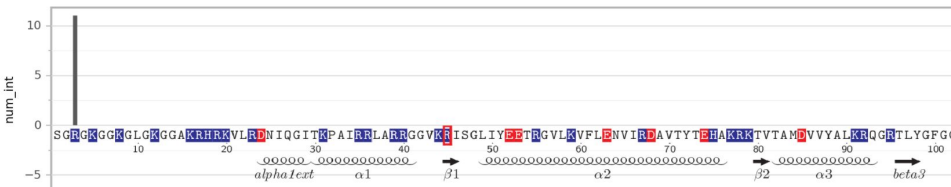


Replication associated

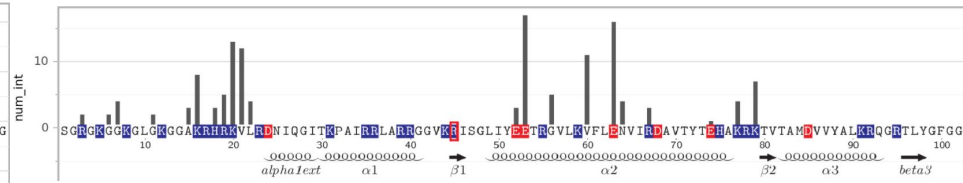


H4 взаимодействие с интеракторами

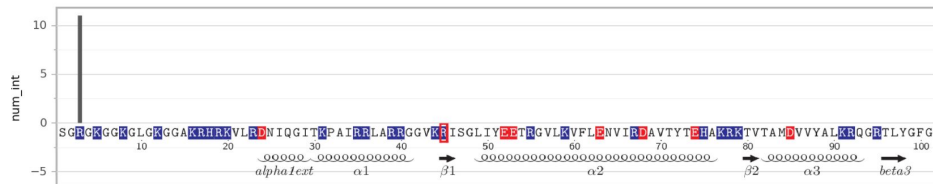
PTM erasers



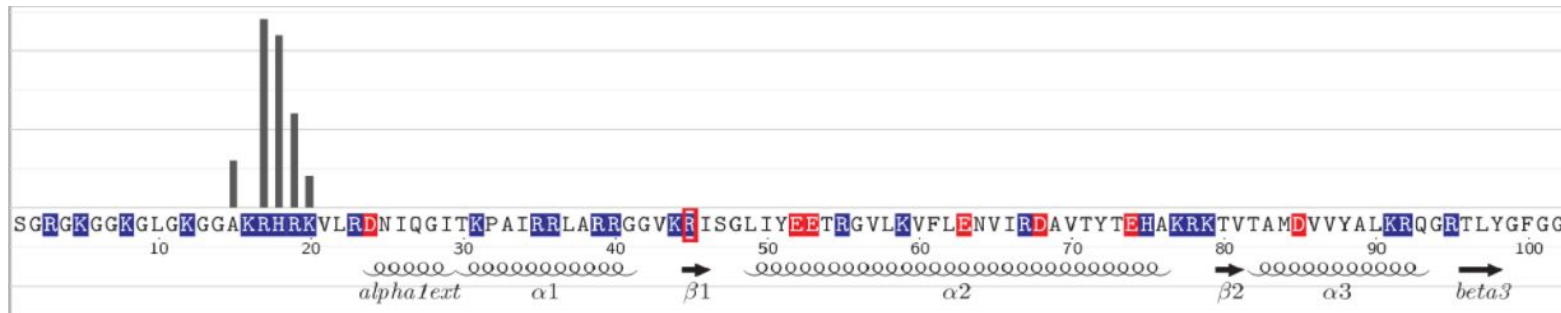
Compartment: centromeric



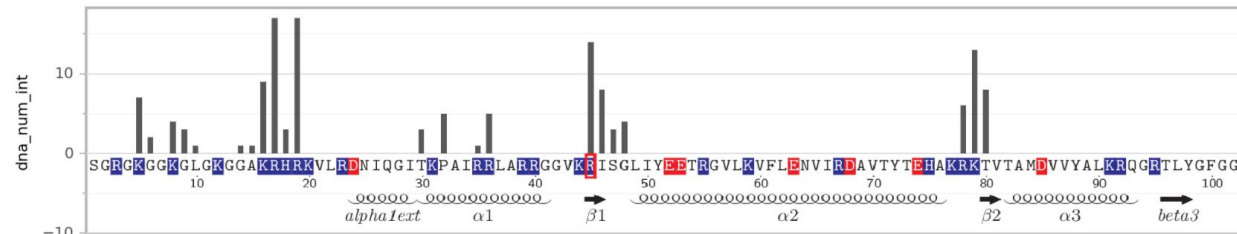
DNA modifiers



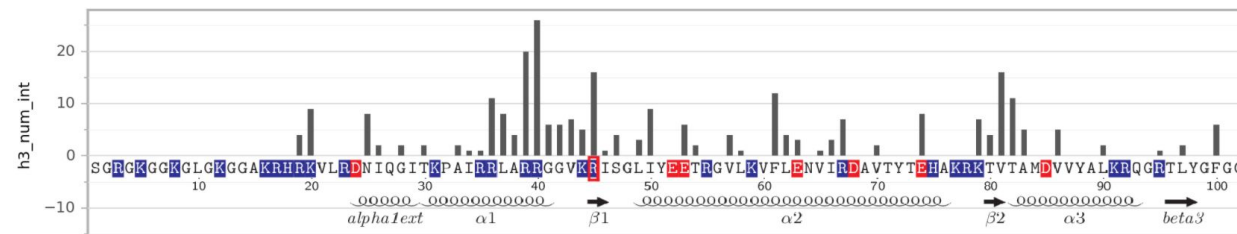
SNF2



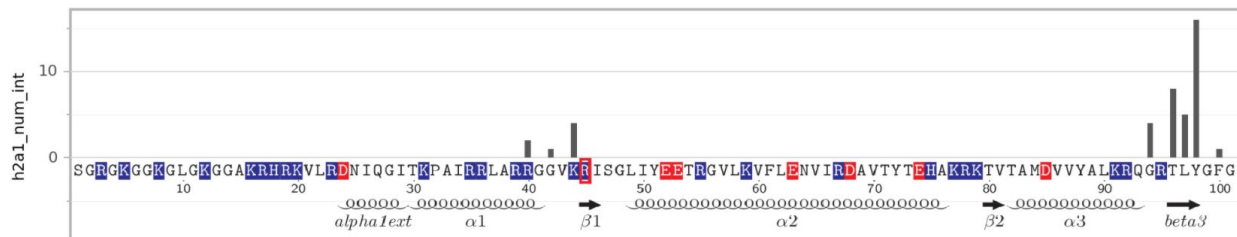
H4 контакты в нуклеосоме



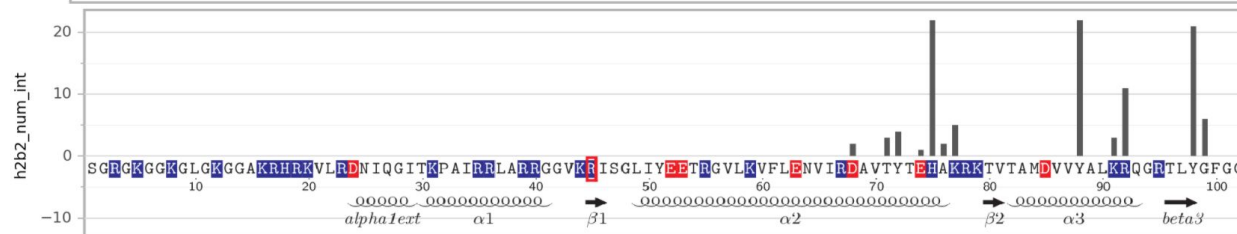
ДНК



H3

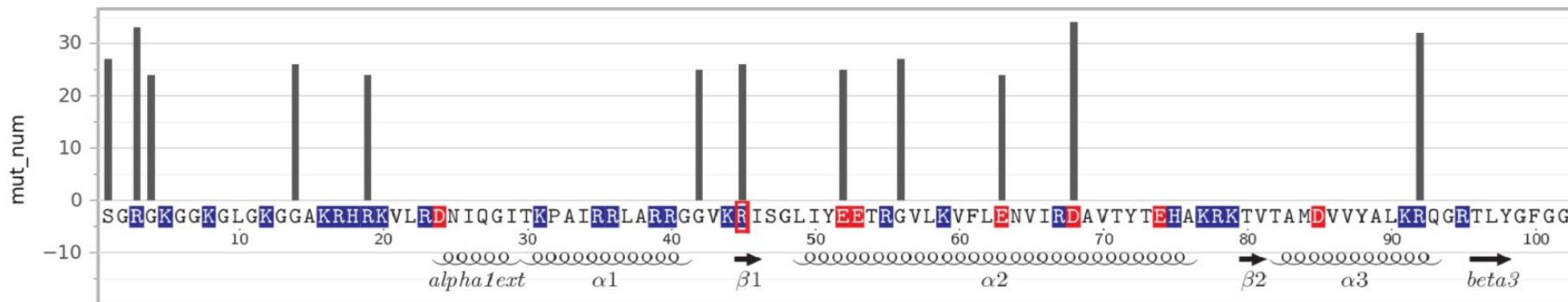


H2A



H2B

10% самых часто мутирующих позиций в H4



S1 - ptm: ph

R3 - ci, me1, me2; DNA modifiers, PTM erasers,

Transcription factors, Compartment: centromeric

G4 - Compartment telomeric(мало)

G14 - с ДНК(мало)

R19 - **с ДНК**, с H3, PTM writers, Chromatin remodelers,

Transcription factors, Compartment: telomeric,

Transcription associated, Histone chaperones,

Compartment: centromeric

G42 - с H3, с H2A(мало)

R45 - с ДНК, с НЗ

E52 - Transcription factors, Compartment: centromeric

G56 - Transcription factors, Compartment: centromeric

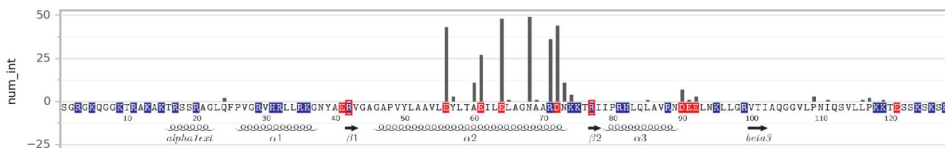
E63 - c H3, PTM writers, Transcription factors,
Compartment: telomeric(мало), **Compartment:**
centromeric

D68 - c H2B

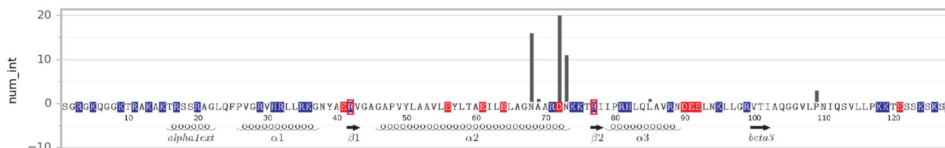
R92 - c H2B

H2A взаимодействие с интеракторами

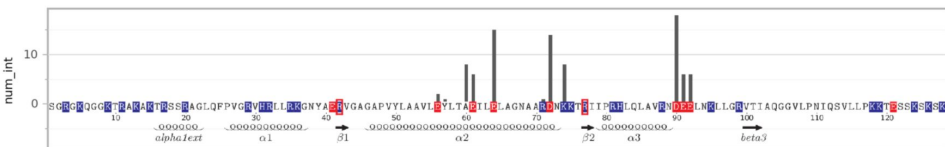
PTM writers



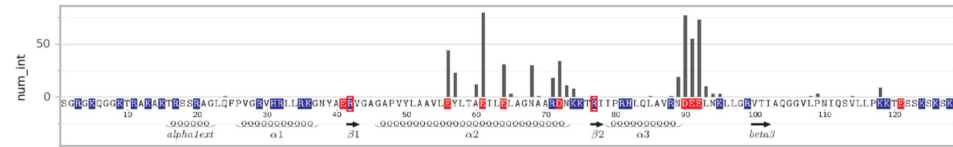
PTM readers



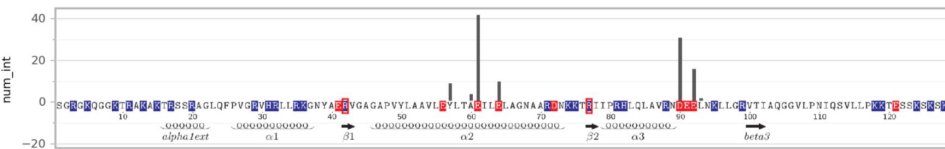
Chromatin remodelers



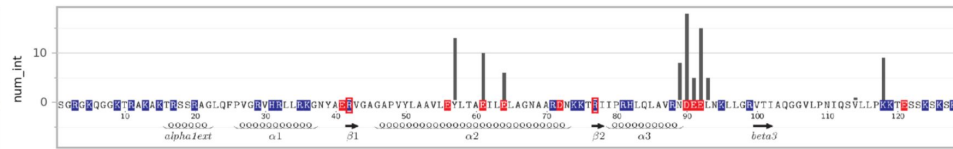
Transcription factors



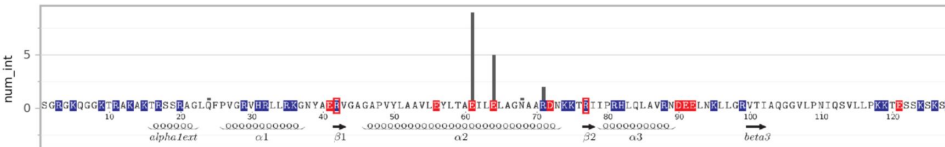
Compartment: telomeric



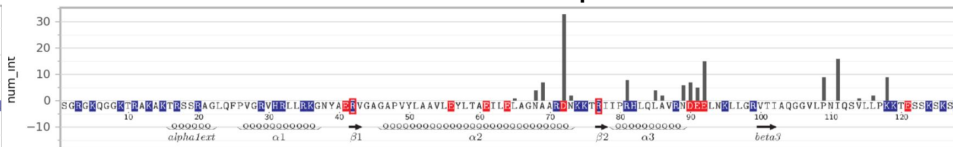
DNA repair



Transcription associated

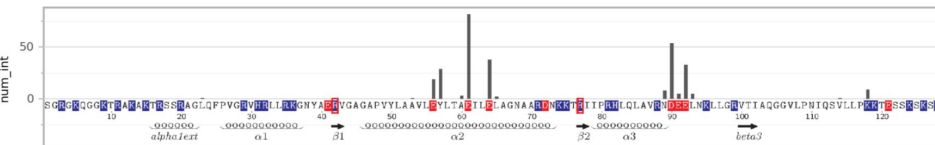


Histone chaperones

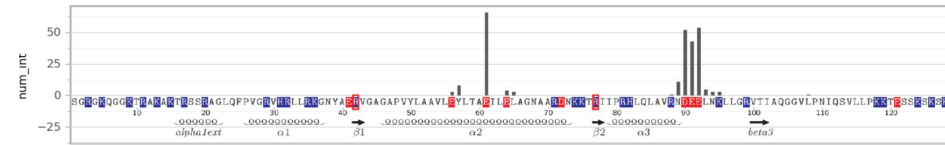


H2A взаимодействие с интеракторами

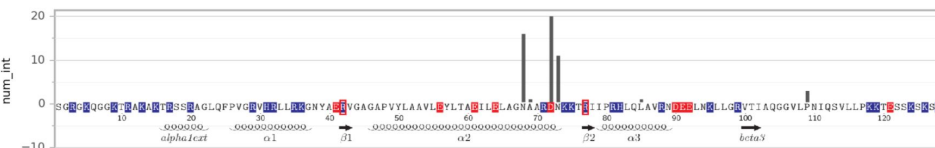
Replication associated



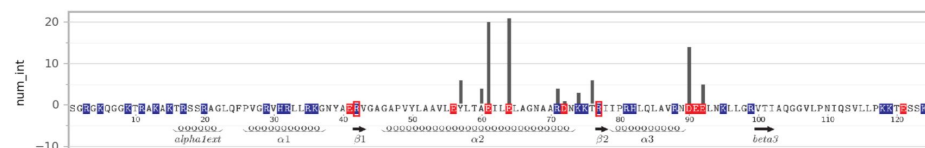
Compartment: centromeric



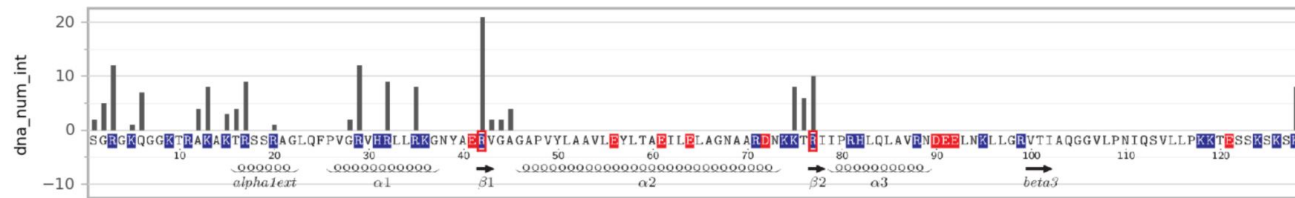
DNA modifiers



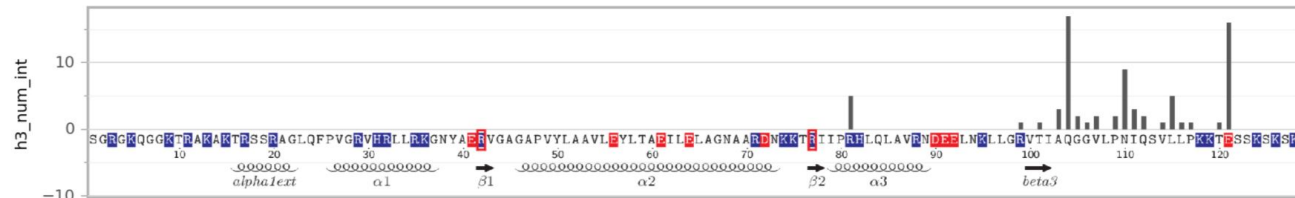
Mitosis



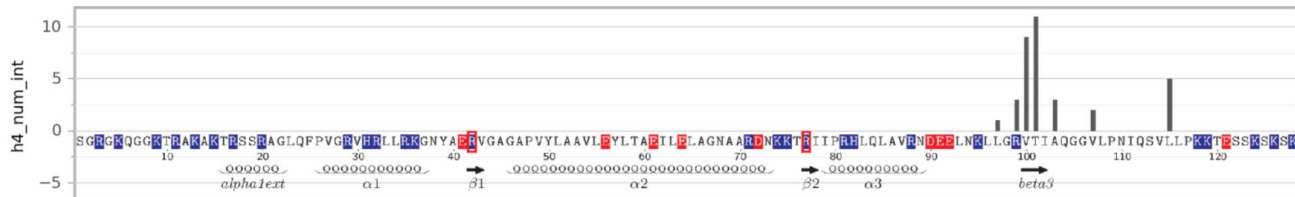
H2A контакты в нуклеосоме



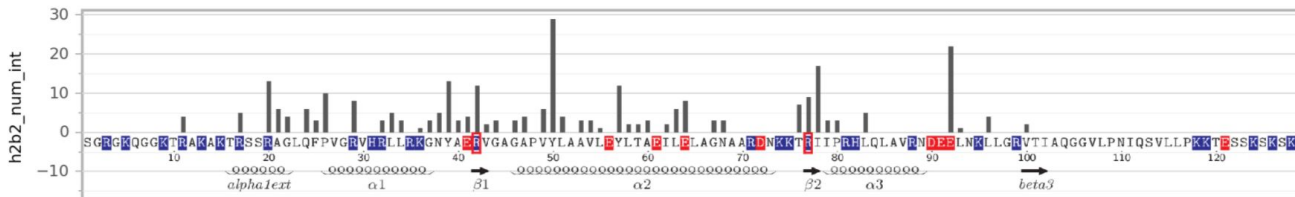
ДНК



H3

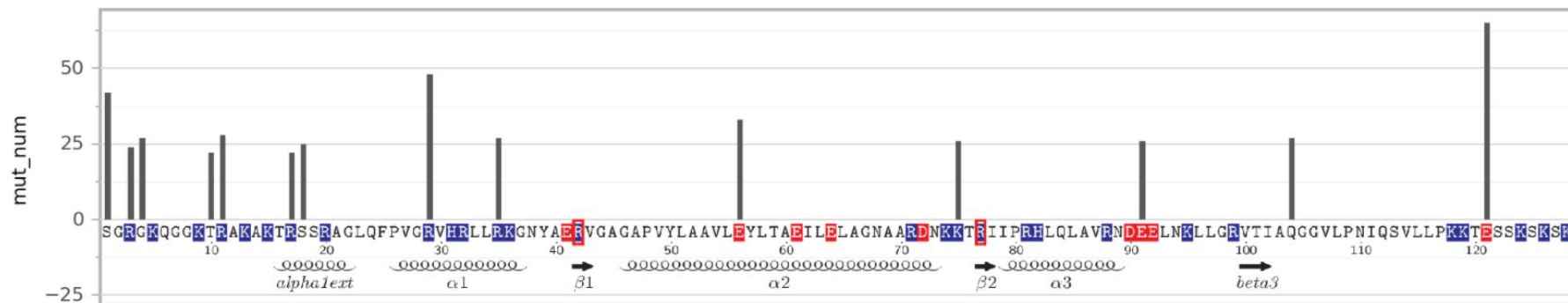


H4



H2B

10% самых часто мутирующих позиций в H2A



S1 - ptm: ph, с ДНК(мало)

R3 - ptm: ci, me2, с ДНК

G4 - ?

T10 - ?

R11 - ?

R17 - с ДНК, с h2b

S18 - ?

R29 - с ДНК, с H2B

R35 - с ДНК

E56 - acidic patch, PTM writers, Chromatin remodelers, Transcription factors, Replication associated, Compartment: centromeric(мало)

K75 - с ДНК

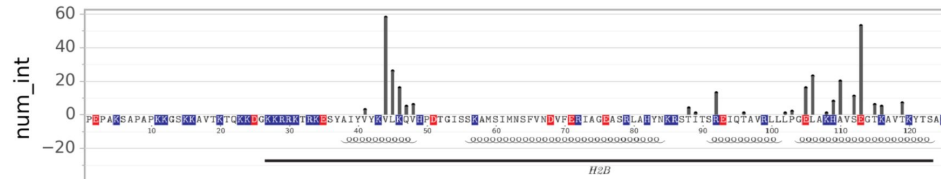
E91 -fact complex 2, acidic patch, PTM writers(мало), Chromatin remodelers, Transcription factors, DNA repair, Histone chaperones, Replication associated(мало), Compartment: centromeric

Q104 - с H3

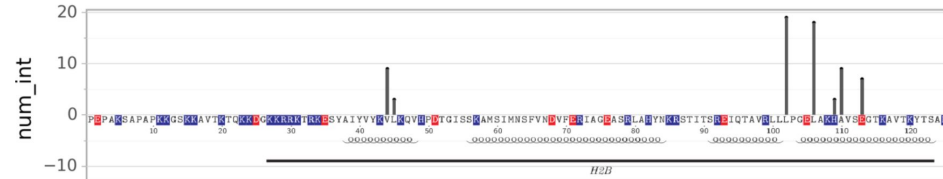
E121 - с H3

H2B взаимодействие с интеракторами

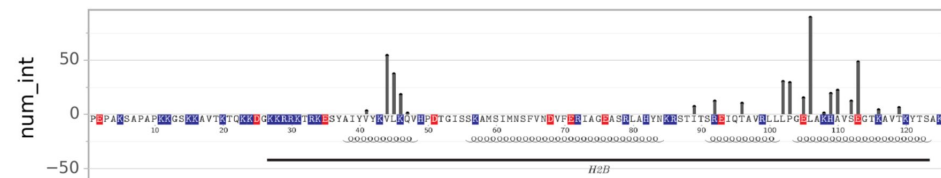
PTM writers



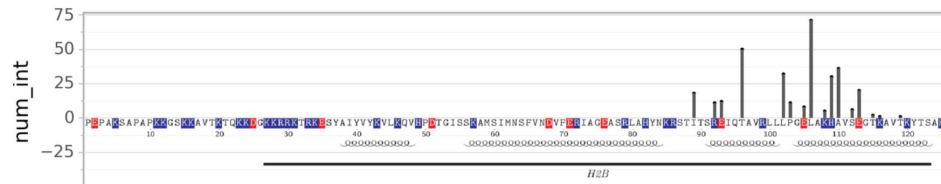
Chromatin remodelers



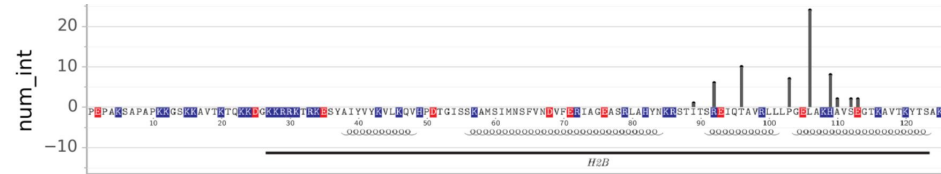
Transcription factors



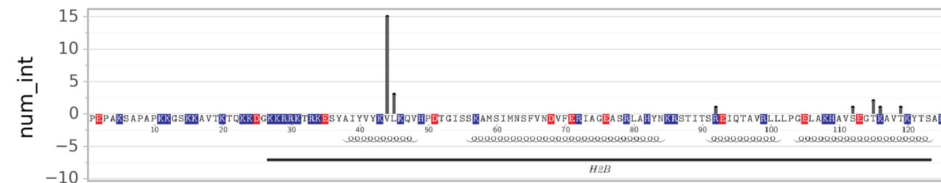
Compartment: telomeric



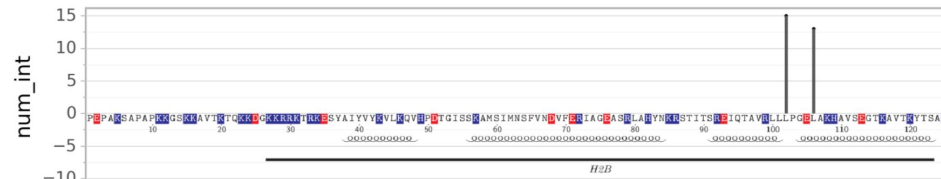
DNA repair



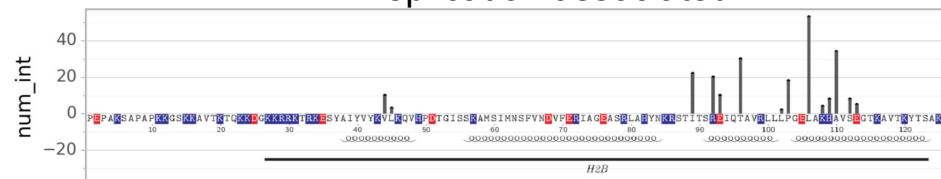
Transcription associated



Histone chaperones

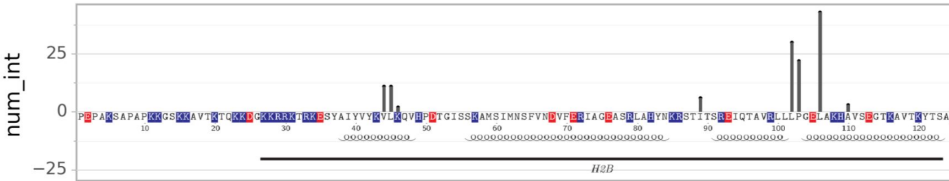


Replication associated

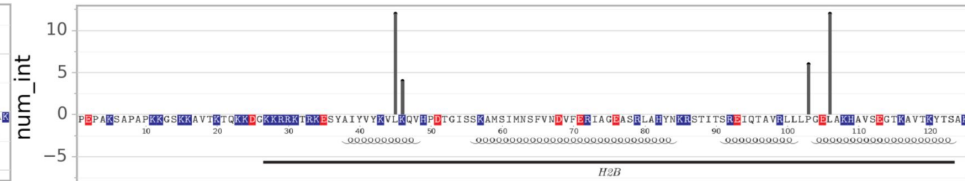


H2B взаимодействие с интеракторами

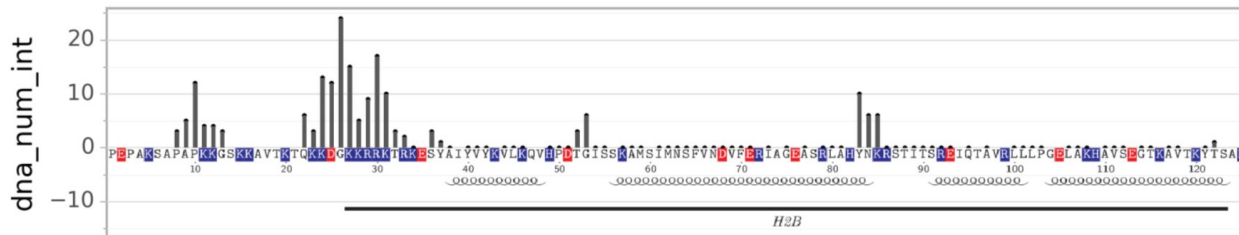
Compartment: centromeric



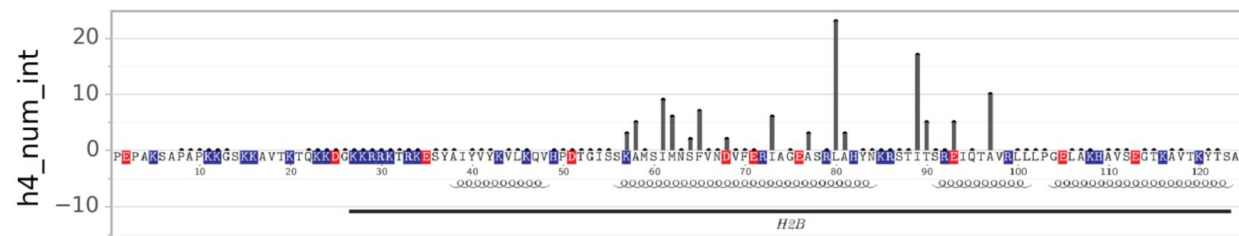
Mitosis



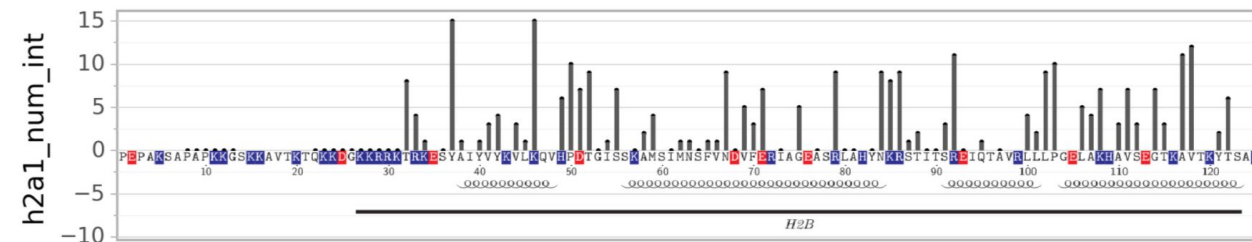
H2B контакты в нуклеосоме



ДНК

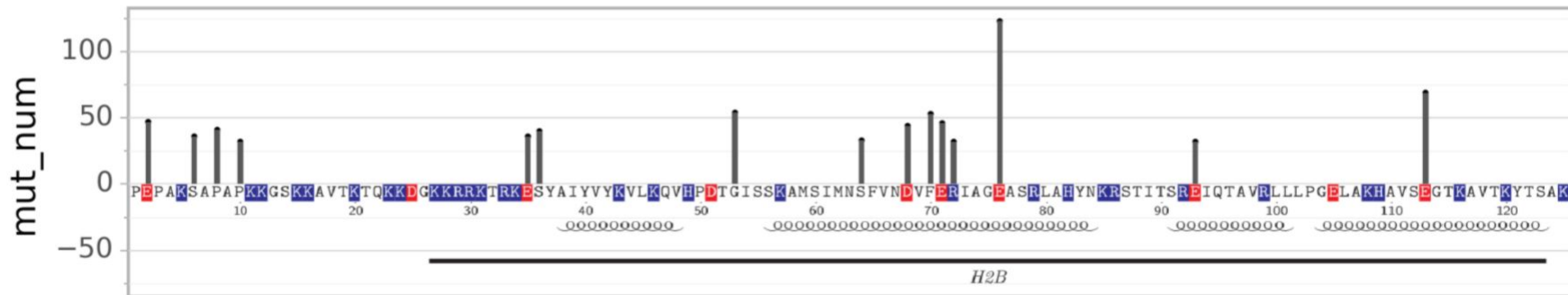


H4



H2B

10% самых часто мутирующих позиций в H2B



E2 - ?

S6 - ?

P8 - с ДНК

P10 - с ДНК

E35 - ?

S36 - с ДНК

G53 - с ДНК

S64 - с H4

D68 - с H4

F70 - с H2A

E71 - с H2A

R72 - ?

E76 - ?? очень много

E93 - Compartment: telomeric, Replication associated, с H4

E113 - PTM writers, Chromatin remodelers, Transcription factors, Compartment: telomeric, DNA repair, Replication associated

