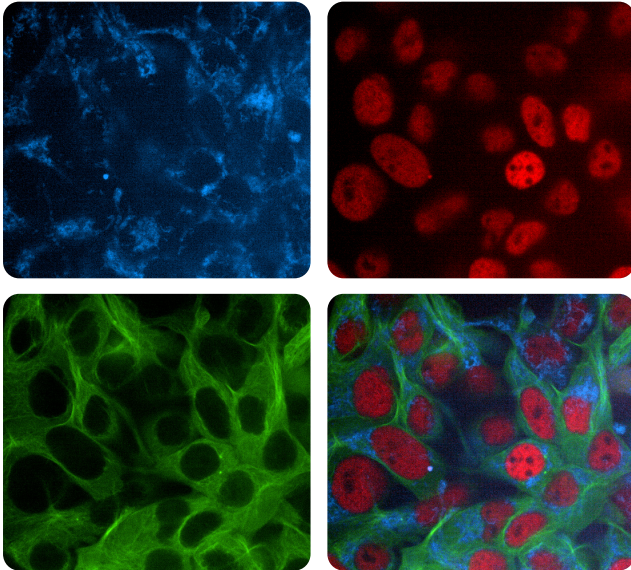




ExpressCells

HISTONE H3.3 BETA-TUBULIN ATP SYNTHASE SUBUNIT BETA Triple gene-tagged cell line (HEK 293T)

Catalog no: EXP-009



Product summary

This triple-labeled cell line allows detection of a) the cell nucleus (Histone H3.3), b) the microtubules (β -Tubulin), and c) the mitochondria (ATP synthase subunit β) without fixation, staining, or immunofluorescence.

Cell type:	HEK 293T
Gene symbol / NCBI gene ID:	a) H3F3B / 3021 b) TUBB / 203068 c) ATP5B / 506
Proteins:	a) Histone H3.3 b) β -Tubulin c) ATP synthase subunit β
Subcellular location / function:	a) Nucleus b) Cytoskeleton c) Mitochondria
Modification:	a) C-terminal mRuby3 b) C-terminal mClover3 c) C-terminal mtagBFP2
Excitation / Emission (nm):	a) 558 / 592 b) 506 / 518 c) 399 / 454
Antibiotic resistance:	a) Zeocin TM b) Puromycin c) Blastcidin
Population type:	Heterozygous

Gene / protein summaries from NCBI database

a) Histones are basic nuclear proteins that are responsible for the nucleosome structure of the chromosomal fiber in eukaryotes. Two molecules of each of the four core histones (H2A, H2B, H3, and H4) form

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CUSTOM CELL LINE SERVICES AVAILABLE UP TO 3 KNOCK-INS IN A SINGLE CELL LINE

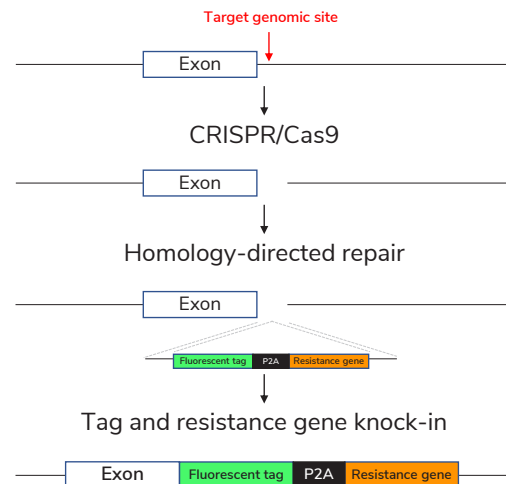
an octamer, around which approximately 146 bp of DNA is wrapped in repeating units, called nucleosomes. The linker histone, H1, interacts with linker DNA between nucleosomes and functions in the compaction of chromatin into higher order structures. This gene contains introns and its mRNA is polyadenylated, unlike most histone genes. The protein encoded by this gene is a replication-independent histone that is a member of the histone H3 family. [provided by RefSeq, Nov 2015]

b) This protein forms a dimer with alpha tubulin and acts as a structural component of microtubules... [provided by RefSeq, Jun 2014]

c) Mitochondrial ATP synthase catalyzes ATP synthesis, utilizing an electrochemical gradient of protons across the inner membrane during oxidative phosphorylation. ATP synthase is composed of two linked multi-subunit complexes: the soluble catalytic core, F1, and the membrane-spanning component, Fo, comprising the proton channel. termination element. This gene is found in the large histone gene cluster on chromosome 6. [provided by RefSeq, Aug 2015]

ExpressCells' FAST-HDR knock-in technology

ExpressCells uses CRISPR and FAST-HDR vector technology to knock-in fluorescent, luminescent, or other tags at the C-terminus of endogenous genes. The non-viral FAST-HDR system enables rapid labeling of up to three proteins of interest in a single mammalian cell line.



Handling

Culture medium: Dulbecco's Modified Eagle Medium (DMEM), high glucose supplemented with 10% fetal bovine serum (FBS) and penicillin/streptomycin to prevent bacterial contamination.

Thawing: Transfer the frozen tube to a 37° C water bath and let contents thaw. Transfer tube contents to 10 mL of prewarmed medium in a biosafety hood and centrifuge at 200 × g for 5 min. Resuspend the pellet in 5 mL of medium and transfer to a mammalian cell culture flask.

Safety: Biosafety level 2.

References

- Gene [database online]. Washington DC: NCBI; 2020. <https://www.ncbi.nlm.nih.gov/gene/3021>. Accessed March 19, 2020.
- Gene [database online]. Washington DC: NCBI; 2020. <https://www.ncbi.nlm.nih.gov/gene/203068>. Accessed March 19, 2020.
- Gene [database online]. Washington DC: NCBI; 2020. <https://www.ncbi.nlm.nih.gov/gene/506>. Accessed March 19, 2020.
- Perez-Leal O, Nixon-Abell J, Barrero CA, Gordon J, Rico MC. A versatile vector system for the fast generation of knock-in cell lines with CRISPR [preprint published online February 6 2020]. *bioRxiv*. doi: 10.1101/2020.02.06.927384.

For research use only.

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