CUTANA™ Nuclei Extraction Buffer

Catalog No	21-1026		Pack Size	100 Reactions
Lot No	25049003-81		Applications	CUT&RUN, CUT&Tag

DESCRIPTION

CUTANA™ Nuclei Extraction Buffer is the essential reagent for harvesting nuclei from cultured cells and tissues for use in CUT&RUN and CUT&Tag assays. This buffer is expected to be broadly compatible with eukaryotic cells and tissues. Below are examples of various cells and tissue types that have undergone successful nuclei isolation using this buffer:

mouse NIH3T3 fibroblast cells
human K562 leukemia cells
human bone marrow derived macrophages
human monocyte derived macrophages
human MV-4-11 macrophage cells
human SUM149 triple negative breast cancer (TNBC) cells
human GM24385 B-lymphocyte (aka HG002) cells
human MCF7 breast cancer cells
human MDA-MB-231 breast cancer cells
human SK-MEL-2 melanoma cells

human A549 non-small cell lung cancer (NSCLC) cells
human NCI-H1299 non-small cell lung cancer (NSCLS cells)
human TIG-1 fetal lung cells
human LoVo colorectal cancer cells
human LNCaP prostate carcinoma cells
human renal primary cells
human peripheral blood mononuclear cells (PBMCs)
human intestinal tissue
human HEPM embryonic cells

The reagent is prepared by supplementing Pre-Nuclei Extraction Buffer with protease inhibitor and spermidine fresh on the day of use. Utilize this buffer in EpiCypher's CUTANA™ Nuclei Extraction Protocol for CUT&RUN and CUT&Tag (epicypher.com/protocols) to obtain the highest quality nuclei for your genomic mapping assay.

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Item	CAT
CUTANA™ Pre-Nuclei Extraction Buffer	21-1021-08
1 M Spermidine	21-1005-08

REQUIRED MATERIALS NOT SUPPLIED

Protease inhibitor is not included. EpiCypher suggests using CUTANA™ Protease Inhibitor Tablets (EpiCypher 21-1027).

RECOMMENDED ACCESSORY PRODUCTS

Item	CAT
CUTANA™ CUT&RUN Kit	14-1048
CUTANA™ pAG-MNase	15-1016 / 15-1116
CUTANA™ pAG-Tn5	15-1017 / 15-1117

NOTE: CUTANA™ CUT&Tag Kit (14-1102 / 14-1103) already contains Nuclei Extraction Buffer.

TECHNICAL INFORMATION

Storage

Store the Pre-Nuclei Extraction Buffer at 4°C and the 1 M Spermidine at -20°C. Components are stable for 6 months upon date of receipt.

Instructions for Use

Prepare Nuclei Extraction Buffer FRESH on day of use as outlined below. This master mix includes 20% extra volume to account for pipetting error; no additional buffer volume is needed.

Per CUT&RUN or CUT&Tag reaction, combine:

235 µL Pre-Nuclei Extraction Buffer (21-1021-08)
0.13 µL 1M Spermidine (21-1005-08)*
9.8 µL 25X Protease Inhibitor (Prepare using CUTANA™ Protease Inhibitor Tablets, 21-1027)**

If preparing buffer for fewer than 8x reactions, dilute the 1M Spermidine stock 1:10 in molecular biology-grade water and add 1.3 µL per reaction.
**Leftover 25X Protease Inhibitor can be stored for 12 weeks at -20°C*

Follow instructions detailed in EpiCypher's CUTANA™ Nuclei Extraction Protocol for CUT&RUN and CUT&Tag (epicypher.com/protocols) to isolate nuclei from suspension and adherent cells. The protocol includes key quality control checks to ensure nuclei are high quality before starting CUT&RUN or CUT&Tag.

VALIDATION DATA
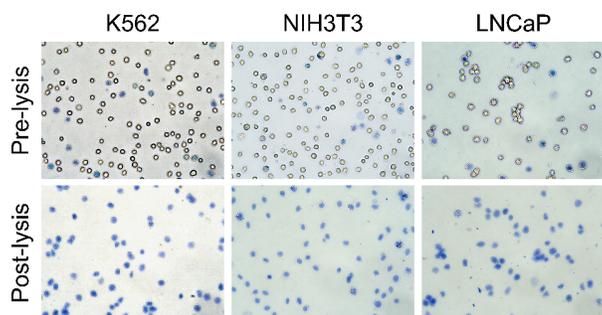
FIGURE 1 **Nuclei extraction.** Nuclei were extracted from 3 different cell types**:** K562, NIH3T3, and LNCaP, using the CUTANA™ Nuclei Extraction Protocol for CUT&RUN and CUT&Tag. Top 3 panels show cells before extraction. Starting cells are viable (white and round). Bottom 3 panels show nuclei extracted using the CUTANA™ Nuclei Extraction Buffer as indicated by positive Trypan Blue staining.