

Click-iT® EdU Flow Cytometry Assay Kits

Table 1. Contents and storage information

| Material | Amount | Concentration | Storage* | Stability |
|--|--------|--|---|---|
| EdU (Component A) | 10 mg | NA | <ul style="list-style-type: none"> • 2–6°C • Desiccate • Protect from light • DO NOT FREEZE | When stored as directed, this kit is stable for up to 1 year. |
| Alexa Fluor® 488 azide (Cat. no. C35002), Alexa Fluor® 647 azide (Cat. no. A10202), or Pacific Blue™ azide (Cat. no. A10034) (Component B) | 1 vial | NA | | |
| Dimethylsulfoxide (DMSO, Component C) | 5 mL | NA | | |
| Click-iT® fixative (Component D) | 5 mL | 4% paraformaldehyde in PBS | | |
| Click-iT® saponin-based permeabilization and wash reagent† (Component E) | 50 mL | 10X solution | | |
| Click-iT® Triton® X-100-based permeabilization reagent (Component F) | 5 mL | 1X solution in PBS | | |
| Click-iT® EdU reaction buffer (Component G) | 4 mL | 10X solution containing Tris-buffered saline | | |
| CuSO ₄ (Component H) | 550 µL | 100 mM aqueous solution | | |
| Click-iT® EdU buffer additive (Component I) | 800 mg | NA | | |
| Click-iT® EdU CellCycle 633-red or CellCycle 405-blue (Component J) | 1 vial | NA | | |
| Click-iT® EdU CellCycle 488-red (7-AAD) (Component K, Cat. no. A10034, C35002) | 1 vial | NA | | |
| Propidium iodide (PI) (Component K, Cat. no. A10202) | 1 vial | 1 mg/mL solution in water | | |
| Ribonuclease A (MW ~13,700, Component L) | 260 µL | 20 mg/mL | | |

*These storage conditions are appropriate when storing the entire kit upon receipt. For optimal storage conditions for each component, see the labels on the vials. †Contains 0.09% sodium azide. NA = Not applicable.

Number of assays: Sufficient material is supplied for 50 assays, based on the protocol below.

Approximate fluorescence excitation/emission maxima, in nm: Alexa Fluor® 488 azide: 495/519; Alexa Fluor® 647 azide: 650/670; Pacific Blue™ azide: 410/455; Click-iT® EdU CellCycle 633-red: 640/658, bound to DNA; Click-iT® EdU CellCycle 488-red: 546/647, bound to DNA; Click-iT® EdU CellCycle 405-blue: 369/437, bound to DNA; Propidium iodide: 535/617, bound to DNA

Introduction

Measuring a cell's ability to proliferate is a fundamental method for assessing cell health, determining genotoxicity, and evaluating anti-cancer drugs. The most accurate method of doing this is by directly measuring DNA synthesis. Initially this was performed by incorporation of radioactive nucleosides³ (for example, H-thymidine). This method was replaced by antibody-based detection of the nucleoside analog bromo-deoxyuridine (BrdU). The Click-iT[®] EdU Flow Cytometry Assay Kits are novel alternatives to the BrdU assay. EdU (5-ethynyl-2'-deoxyuridine) is a nucleoside analog to thymidine and is incorporated into DNA during active DNA synthesis. Detection is based on a click reaction,¹⁻⁴ a copper catalyzed covalent reaction between an azide and an alkyne. In this application, the EdU contains the alkyne, while the Alexa Fluor[®] 488 dye, Alexa Fluor[®] 647 dye, or Pacific Blue[™] dye contains the azide. Standard flow cytometry methods are used for determining the percentage of cells in the population that are in S-phase (Figures 1 and 4).

The advantages of Click-iT[®] EdU labeling are readily evident while performing the assay (Figures 2 and 3). The small size of the dye azide allows for efficient detection of the incorporated EdU using mild conditions. Standard aldehyde-based fixation and detergent permeabilization are sufficient for the Click-iT[®] detection reagent to gain access to the DNA. This is in contrast to BrdU assays that require DNA denaturation (using HCl, heat, or digestion with DNase) to expose the BrdU so that it may be detected with an anti-BrdU antibody. Sample processing for the BrdU assay can result in signal alteration from the cell cycle distribution as well as destruction of antigen recognition sites when using the HCl method. In contrast, the easy-to-use EdU cell proliferation kit is compatible with cell cycle dyes. This EdU assay kit can also be multiplexed with antibodies against surface and intracellular markers. However, some of these reagents or antibodies may not be compatible with the Click-iT[®] EdU detection reagent and may need some additional steps to make the reagent or antibody compatible with the Click-iT[®] EdU detection reagent (see Table 2 for details).

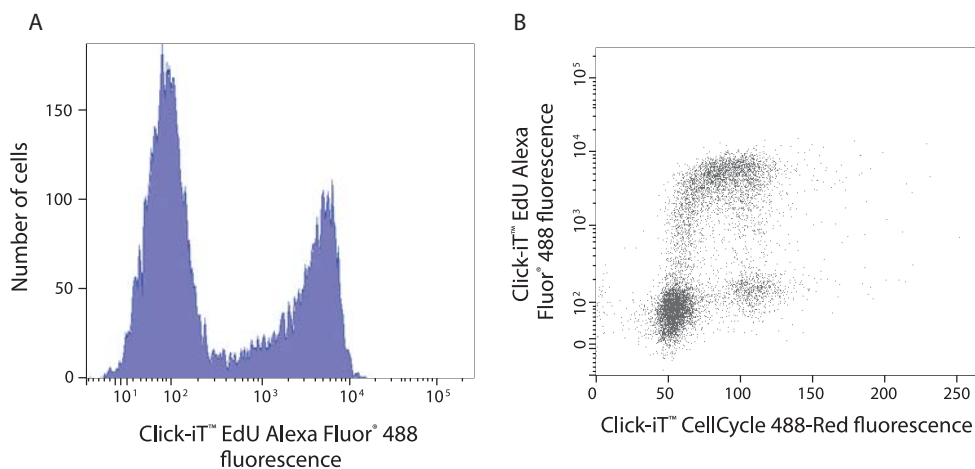


Figure 1. Dual parameter plot of Jurkat cells with Alexa Fluor[®] 488 azide and Click-iT[®] CellCycle 488-red. Jurkat cells were treated with 10 μ M of EdU for 1 hour. Panel A shows cells labeled with Alexa Fluor[®] 488 azide using 488-nm excitation with a 530/30-nm bandpass; clear separation of proliferating cells that have incorporated EdU and nonproliferating cells is demonstrated. Panel B combines DNA content with EdU cells that are co-positive for both labels providing the percentage of cells in S-phase of DNA synthesis.

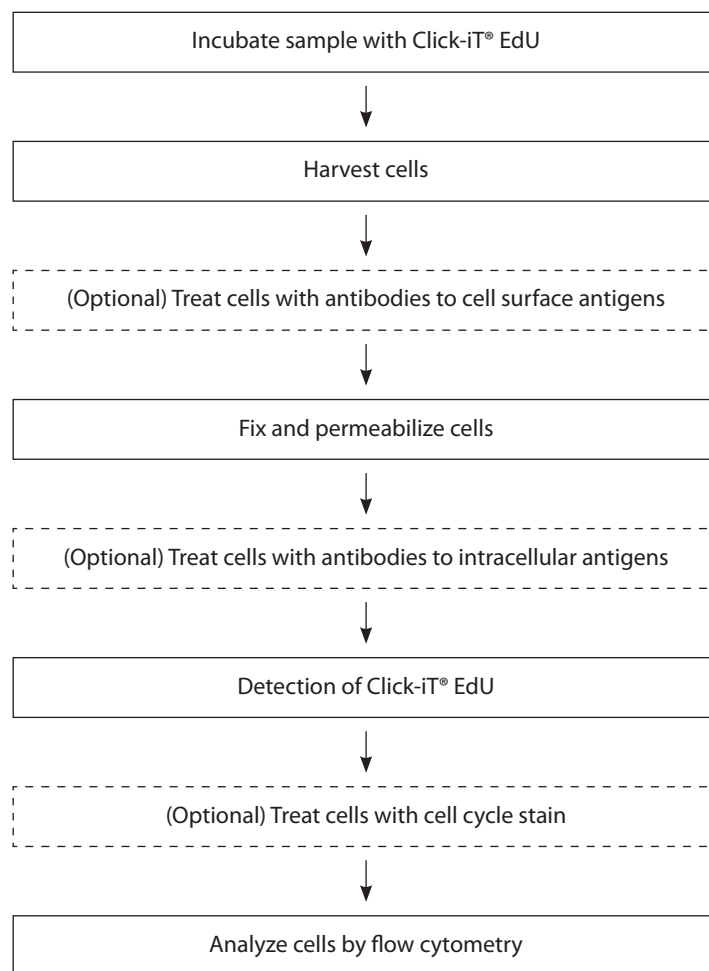


Figure 2. Workflow diagram for the Click-iT® EdU Flow Cytometry Assay..

The kits contain all of the components needed to label and detect the incorporated EdU, as well as to perform cell cycle analysis on samples from whole blood, adherent cells, or suspension cells (Figures 1 and 4). For cell cycle analysis, each kit is supplied with two different cell cycle dyes compatible with the fluorescence excitation and emission of the EdU detection reagent. Sufficient reagents are provided for performing 50 flow cytometry-based assays using 0.5 mL of reaction buffer per assay.

Before You Begin

Materials required but not provided

- 1% bovine serum albumin (BSA) in phosphate buffered saline (PBS) (1% BSA in PBS), pH 7.1–pH 7.4
- Deionized water or 18 megohm purified water
- Flow tubes

Table 2. Click-iT® EdU detection reagent compatibility

| Fluorescent molecule | Compatibility* |
|--|--|
| Qdot® nanocrystals | Use Qdot® nanocrystals after the Click-iT® detection reaction. |
| Fluorescent proteins (GFP) | Use anti-GFP antibodies before the Click-iT® detection reaction or use organic dye-based reagents for protein expression detection. |
| Organic dyes such as Alexa Fluor® dyes, fluorescein (FITC) | Compatible |
| PerCP, allophycocyanin (APC) and APC-based tandems (for example, Alexa Fluor® 680-APC) | Compatible |
| R-phycoerythrin (R-PE) and R-PE based tandems (for example, Alexa Fluor® 610-RPE) | Use R-PE and R-PE-based tandems after the Click-iT® detection reaction. |
| TC-FIAsh™/TC-ReAsH™ reagents | Detect the tetracysteine (TC) tag with FIAsh™ or ReAsH™ reagents before the Click-iT® detection reaction. |

*Compatibility indicates whether the fluorescent molecule itself or the detection methods involve components that are unstable in the presence of copper catalyst used for the Click-iT® EdU detection reaction. Not all anti-GFP antibodies recognize the same antigen site. Rabbit and chicken anti-GFP antibodies perform well, whereas the mouse monoclonal antibodies tested do not generate an acceptable amount of fluorescence, and are not recommended for this application.

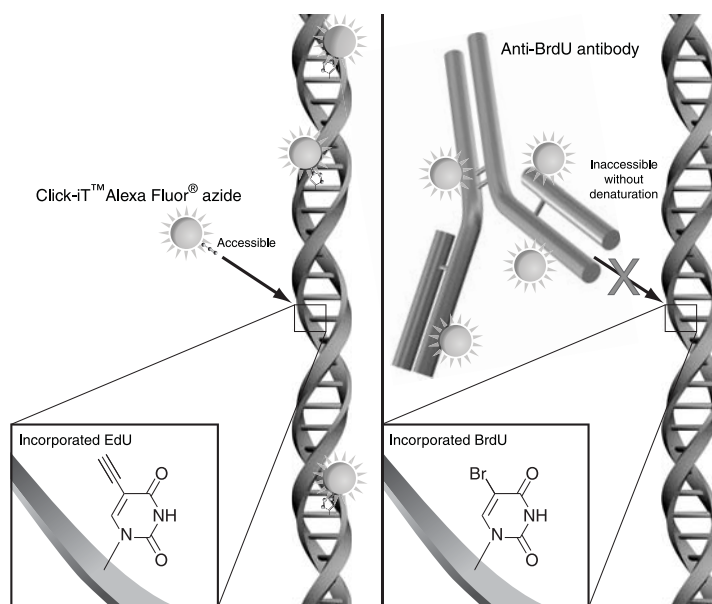


Figure 3. Detection of the incorporated EdU with the Alexa Fluor® azide versus incorporated BrdU with an anti-BrdU antibody. The small size of the Alexa Fluor® azide eliminates the need to denature the DNA for the EdU detection reagent to gain access to the nucleotide.

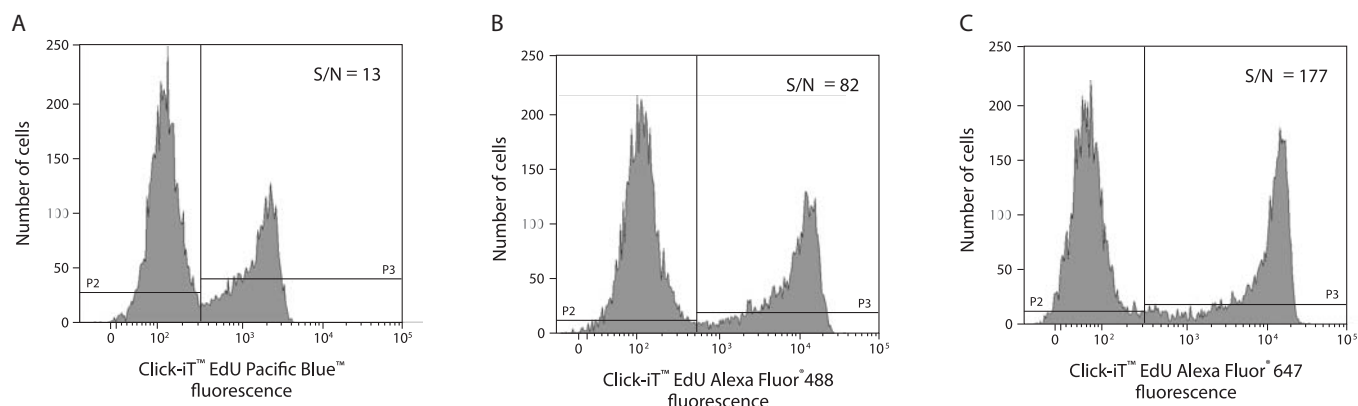


Figure 4. Comparison of the fluorescence signal from Alexa Fluor® 488, Alexa Fluor® 647, and Pacific Blue™ Click-iT® EdU flow cytometry assay kits. Jurkat (human T-cell leukemia) cells were treated with 10 mM of EdU for 2 hours and detected according to the staining protocol. Panel A shows data from cells labeled with Pacific Blue™ azide using 405-nm excitation with a 450/50-nm bandpass; Panel B shows data from cells labeled with Alexa Fluor® 488 azide using 488-nm excitation and a 530/30-nm bandpass emission filter; Panel C shows data from cells labeled with Alexa Fluor® 647 azide using 633-nm excitation and a 660/20-nm bandpass. Signal to background (S/N) was calculated by dividing the median Click-iT® EdU positive population (P3) by the median non-proliferating population (P2) as indicated by the markers.

Cautions Use the Click-iT® EdU CellCycle 633-red or CellCycle 405-blue (Component J) and Click-iT® EdU CellCycle 488-red (7-AAD) or propidium iodide (Component K) with appropriate precautions as these compounds are known or suspected mutagens.

Click-iT® fixative (Component D) contains paraformaldehyde, which is harmful. Use with appropriate precautions.

DMSO (Component C), provided as a solvent in this kit, is known to facilitate the entry of organic molecules into tissues. Handle reagents containing DMSO using equipment and practices appropriate for the hazards posed by such materials. Dispose of the reagents in compliance with all pertaining local regulations.

Click-iT® saponin-based permeabilization and wash reagent (Component E) contains azide, which yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

Preparing the stock solutions Not all of the following stock or working solutions prepared are used in every experiment. This kit includes two dyes to measure DNA content and cell cycle distribution. If cell cycle analysis is of interest, use only one of the dyes that is appropriate for the available excitation lasers. This kit also contains two different permeabilization buffers; use only the buffer that is appropriate for the sample type and experiment.

- 1.1 Allow vials to warm to room temperature before opening.
- 1.2 To make a 10-mM solution of EdU (Component A): Add 4 mL of DMSO (Component C) or aqueous solution (for example, buffer, saline) to Component A, then mix well. After use, store any remaining stock solution at $\leq -20^{\circ}\text{C}$. When stored as directed, the stock solution is stable for up to 1 year.
- 1.3 To make a working solution of Alexa Fluor® or Pacific Blue™ azide:
 - Add 260 μL of DMSO (Component C) to Alexa Fluor® 488 azide (Component B, Cat. no. C35002), then mix well.

OR

- Add 156 μL of DMSO (Component C) to Alexa Fluor® 647 azide (Cat. no. A10202) or Pacific Blue™ azide (Component B, Cat. no. A10034), then mix well.

After use, store any remaining working solution at $\leq -20^{\circ}\text{C}$. When stored as directed, this working solution is stable for up to 1 year.

- 1.4 To make 500 mL of 1X Click-iT® saponin-based permeabilization and wash reagent (Component E): Add 50 mL of Component E to 450 mL of 1% BSA in PBS. To make smaller amounts of Component E: Dilute volumes from the Component E bottle 1:10 with 1% BSA in PBS. After use, store any remaining 1X solution at $2-6^{\circ}\text{C}$. When stored as directed, the 1X solution is stable for up to 6 months.

Note: This solution contains sodium azide.

- 1.5 To make 40 mL of 1X Click-iT® EdU reaction buffer (Component G): Transfer all of the solution (4 mL) in the Component G bottle to 36 mL of deionized water; rinse the Component G bottle with some of the diluted Click-iT® EdU reaction buffer to allow transfer of all of the 10X concentrate. To make smaller amounts of 1X Click-iT® EdU reaction buffer: Dilute volumes from the Component G bottle 1:10 with deionized water. After use, store any remaining 1X solution at $2-6^{\circ}\text{C}$. When stored as directed, the 1X solution is stable for up to 6 months.

- 1.6 To make a 10X stock solution of the Click-iT® EdU buffer additive (Component I): Add 4 mL of deionized water, then mix until fully dissolved. After use, store any remaining stock solution at $\leq -20^{\circ}\text{C}$. When stored as directed, the stock solution is stable for up to 1 year.

- 1.7 To make the working solution of the Click-iT® EdU CellCycle 633-red (Component J, included with Cat. nos. A10034, C35002): Add 125 μL of DMSO (Component C) to Component J, then mix well. After use, store any remaining working solution at $\leq -20^{\circ}\text{C}$. When stored as directed, this working solution is stable for up to 1 year.

Note: Component J from Cat. no. A10202 is supplied as a working solution and does not need to be reconstituted.

- 1.8 To make the stock solution of the Click-iT® EdU CellCycle 488-red (7-AAD, Component K, included with Cat. nos. A10034, C35002): Add 125 μL of DMSO (Component C) to Component K, then mix well. After use, store any remaining stock solution at $\leq -20^{\circ}\text{C}$. When stored as directed, this stock solution is stable for up to 1 year.

Note: Component K from Cat. no. A10202 is supplied as a working solution and does not need to be reconstituted.

Experimental Protocols

Labeling cells with EdU

The following protocol was developed with Jurkat cells, a human T cell line, and an optimized EdU concentration of 10 μM , but can be adapted for any cell type. Growth medium, cell density, cell type variations, and other factors may influence labeling. In initial experiments, we recommend testing a range of EdU concentrations to determine the optimal concentration for your cell type and experimental conditions. If you are currently using a BrdU-based assay for cell proliferation, a similar concentration to BrdU is a good starting concentration for EdU. If you are using whole blood as the sample, we recommend heparin as the anticoagulant for collection.

- 2.1 Suspend cells in an appropriate tissue culture medium to obtain optimal conditions for cell growth. Try not to disturb cells too much prior to incubation with EdU (*i.e.*, temperature changes, washing) as this slows the growth of the cells during incorporation.
- 2.2 Add EdU to the culture medium at the desired final concentration, then mix well. We

recommend a starting concentration of 10 μ M. For longer incubations (>24 hours), we recommend lower concentrations. For shorter incubations (\leq 30–45 minutes), you can use higher concentrations. For a negative staining control, include cells from the same population that have not been treated with EdU.

- 2.3** Incubate under conditions optimal for the cell type for the desired length of time. Altering the amount of time the cells are exposed to EdU or subjecting the cells to pulse labeling with EdU allows the evaluation of various DNA synthesis and proliferation parameters. Effective time intervals for pulse labeling and the length of each pulse depends on the cell growth rate.
- 2.4** Harvest cells and proceed immediately to **Cell fixation and (optional) antibody cell-surface staining**, or fix cells by following steps 3.1–3.3 followed by steps 3.8–3.10, and adding 100 μ L of 1% BSA in PBS to each tube. You can store the fixed cells at 4°C for up to 1 week. Following storage, process the labeled cells starting with step 4.1 or 5.1.

Cell fixation and (optional) antibody cell-surface staining

- 3.1** After harvesting cells, wash cells once with 1% BSA in PBS, pellet cells by centrifugation at $500 \times g$ for 5 minutes, then remove the supernatant.
- 3.2** Resuspend cells at 1×10^7 cells/mL in 1% BSA in PBS.
- 3.3** Add 100 μ L of cell suspension or whole blood sample to flow tubes.
- 3.4** If you are performing antibody cell-surface labeling, proceed to step 3.5. If not, proceed to step 3.8.
- 3.5** Add surface antibodies, then mix well (see Table 2).
- 3.6** Incubate for the recommended time and temperature or on ice, **protected from light**.
- 3.7** Wash cells once with 3 mL of 1% BSA in PBS, pellet cells, then remove the supernatant.
- 3.8** Add 100 μ L of Click-iT® fixative (Component D) to the flow tubes. Dislodge the pellet and mix well to ensure a homogenous sample.
- 3.9** Incubate for 15 minutes at room temperature, **protected from light**.
- 3.10** Wash once with 3 mL of 1% BSA in PBS, pellet cells, then remove the supernatant.
- 3.11** Proceed to **Cell permeabilization and EdU detection** and the optional intracellular staining procedure, step 4.1 or step 5.1.

Cell permeabilization and EdU detection

This kit includes two permeabilization reagents:

- Use the Click-iT® saponin-based permeabilization and wash reagent (prepared in step 1.4) with whole blood or cell suspensions containing red blood cells, as well as with cell suspensions containing more than one cell type. This permeabilization and wash reagent maintains the morphological light scatter characteristics of the leukocytes while lysing the red blood cells. We recommend the Click-iT® saponin-based reagent as the default permeabilization reagent. If you are using this permeabilization reagent, proceed to step 4.1.
- Use the Click-iT® Triton® X-100-based permeabilization reagent (Component F) as an alternative to the saponin-based permeabilization reagent. You can use this reagent on cell suspensions if Triton® X-100 has already been validated as the permeabilization reagent with the antibodies used to identify intracellular antigens. If using this permeabilization reagent, proceed to step 5.1.

Table 3. Click-iT® reaction cocktails

| Reaction components | Number of reactions | | | | | | |
|---|---------------------|--------|---------|---------|---------|---------|---------|
| | 1 | 2 | 5 | 10 | 15 | 30 | 50 |
| 1X Click-iT® Reaction Buffer (prepared in step 1.5) | 438 µL | 875 µL | 2.19 mL | 4.38 mL | 6.57 mL | 13.2 mL | 21.9 mL |
| CuSO ₄ (Component H) | 10 µL | 20 µL | 50 µL | 100 µL | 150 µL | 300 µL | 500 µL |
| Fluorescent dye azide (prepared in step 1.3) | 2.5 µL | 5 µL | 12.5 µL | 25 µL | 37.5 µL | 75 µL | 125 µL |
| Reaction Buffer Additive (prepared in step 4.6) | 50 µL | 100 µL | 250 µL | 500 µL | 750 µL | 1.5 mL | 2.5 mL |
| Total volume | 500 µL | 1 mL | 2.5 mL | 5 mL | 7.5 mL | 15 mL | 25 mL |

Saponin-based permeabilization, intracellular staining (optional), and EdU detection

- 4.1 Dislodge the cell pellet prepared in step 3.10 and mix well to ensure a homogenous sample. Add 100 µL of the 1X saponin-based permeabilization and wash buffer prepared in step 1.4, then mix well.
- 4.2 *Optional:* Add antibodies against intracellular antigens and mix (see Table 2).
- 4.3 Incubate for the recommended time and temperature, **protected from light**.
- 4.4 Wash each tube with 3 mL of the 1X saponin-based permeabilization and wash reagent, pellet cells, then remove the supernatant. Dislodge the pellet and mix well before adding the Click-iT® reaction cocktail (step 4.8).
- 4.5 If using red blood cell suspensions, repeat wash step 4.4 once. Take care to remove all residual red blood cells before proceeding to step 4.6.
- 4.6 Prepare 1X Click-iT® EdU buffer additive by diluting the 10X solution (prepared in step 1.6) 1:10 in deionized water.
- 4.7 Prepare the Click-iT® reaction cocktail according to Table 3.

Note: Use the Click-iT® reaction cocktail within 15 minutes of preparation.
- 4.8 Add 0.5 mL of the Click-iT® reaction cocktail (prepared in step 4.7) to each tube, then mix well.
- 4.9 Incubate for 30 minutes at room temperature, **protected from light**.
- 4.10 Wash once with 3 mL of 1X saponin-based permeabilization and wash reagent (prepared in step 1.4), pellet cells, then remove the supernatant. Dislodge the pellet and mix.
- 4.11 Add 0.5 mL of 1X saponin-based permeabilization and wash reagent (prepared in step 1.4).
- 4.12 If measuring DNA content and cell cycle distribution, proceed to step 6.1. To analyze cells by flow cytometry, proceed to step 7.1.

Triton® X-100-based permeabilization, intracellular staining (optional), and EdU detection

- 5.1 Dislodge the cell pellet prepared in step 3.10 and mix well to ensure a homogenous sample. Add 100 µL of the Triton® X-100-based permeabilization reagent (Component F), then mix well.
- 5.2 *Optional:* Add antibodies against intracellular antigens and mix well (see Table 2).
- 5.3 Incubate for 30 minutes at room temperature, **protected from light**.
- 5.4 Wash each tube with 3 mL of 1% BSA in PBS, pellet cells, then remove the supernatant. Dislodge the pellet and mix well to ensure a homogenous sample before adding the Click-iT® reaction cocktail (step 5.7).
- 5.5 Prepare 1X Click-iT® EdU buffer additive by diluting the 10X solution (prepared in step 1.6) 1:10 in deionized water.
- 5.6 Prepare the Click-iT® reaction cocktail according to Table 3.
- Note:** Use the Click-iT® reaction cocktail within 15 minutes of preparation.
- 5.7 Add 0.5 mL of Click-iT® reaction cocktail (prepared in step 5.6) to each tube, then mix well.
- 5.8 Incubate for 30 minutes at room temperature, **protected from light**.
- 5.9 Wash once with 3 mL of 1% BSA in PBS, pellet cells, then remove the supernatant.
- 5.10 Add 0.5 mL of 1% BSA in PBS.
- 5.11 If measuring DNA content and cell cycle distribution, proceed to step 6.1. To analyze samples by flow cytometry proceed to step 7.1.

Optional: Measuring DNA content and cell cycle distribution

This kit includes two stains for measuring DNA content and cell cycle distribution (see Table 4). For a given experiment, only one is used.

Note: You can use propidium iodide (PI) for cell cycle analysis with Alexa Fluor® 488 dye; however, this may reduce the Click-iT® Alexa Fluor® 488 EdU signal to background ratio.

- 6.1 If you are using CellCycle 405-blue, proceed directly to step 6.2. Otherwise, add 5 µL of Ribonuclease A (Component L) to each tube and mix.
- 6.2 Add 2 µL of the appropriate cell cycle dye to each tube, mix well, then incubate at room temperature (see Table 4 for details).

Table 4. Click-iT® EdU CellCycle stains and reaction parameters

| CellCycle stain | EdU detection | Cell cycle | | |
|---------------------------|-----------------------------------|------------|------------|---|
| | | Incubation | Excitation | Detection |
| CellCycle 488-red (7-AAD) | Alexa Fluor® 488 or Pacific Blue™ | 30 minutes | 488 nm | Red emission filter (660/20 nm or similar) |
| CellCycle 633-red | Alexa Fluor® 488 or Pacific Blue™ | 15 minutes | 633/635 nm | Red emission filter (670/14 nm or similar) |
| CellCycle 405-blue | Alexa Fluor® 647 | 30 minutes | 405 nm | Blue emission filter (450/50 nm or similar) |
| Propidium iodide (PI) | Alexa Fluor® 647 | 30 minutes | 488 nm | Red emission filter (610/20 nm or similar) |

Note: The complete excitation and emission spectra for these fluorophores are available at www.lifetechnologies.com.

Analysis by flow cytometry If you are measuring total DNA content, use a low flow rate during acquisition.

- 7.1** For the detection of EdU with Alexa Fluor® 488 azide, use 488-nm excitation with green emission filter (530/30-nm or similar). The fluorescent signal generated by the Alexa Fluor® 488 azide is best detected with logarithmic amplification.

For the detection of EdU with Pacific Blue™ azide, use 405-nm excitation with violet emission filter (450/50-nm or similar). The fluorescent signal generated by the Pacific Blue™ azide is best detected with logarithmic amplification.

For the detection of EdU with Alexa Fluor® 647 azide, use 633/635-nm excitation with red emission filter (660/20-nm or similar). The fluorescent signal generated by the Alexa Fluor® 647 azide is best detected with logarithmic amplification.

- 7.2** For the detection of DNA content:

- Click-iT® EdU CellCycle 633-red—red emission filter (670/14-nm or similar)
- Click-iT® EdU CellCycle 488-red—red emission filter (660/20-nm or similar)
- Click-iT® EdU CellCycle 405-blue—blue emission filter (450/50-nm or similar)
- Propidium iodide (PI)—red emission filter (610/20-nm or similar)

The fluorescent signal generated by the CellCycle stains and propidium iodide is best detected with linear amplification.

References

1. Chembiochem 4, 1147 (2003); 2. J Am Chem Soc 125, 3192 (2003); 3. Angew Chem Int Ed Engl 41, 2596 (2002); 4. Angew Chem Int Ed Engl 40, 2004 (2001).

Product List

Current prices may be obtained from our website or from our Customer Service Department.

| Cat no. | Product name | Unit size |
|-------------------------|---|-------------|
| A10034 | Click-iT® EdU Pacific Blue™ Flow Cytometry Assay Kit *50 assays* | 1 kit |
| A10202 | Click-iT® EdU Alexa Fluor® 647 Flow Cytometry Assay Kit *50 assays* | 1 kit |
| C35002 | Click-iT® EdU Alexa Fluor® 488 Flow Cytometry Assay Kit *50 assays* | 1 kit |
| Related products | | |
| A1310 | 7-aminoactinomycin D (7-AAD) | 1 mg |
| A10027 | Click-iT® EdU Alexa Fluor® 488 High-Throughput Imaging (HCS) Assay *2-plate size* | 1 kit |
| A10028 | Click-iT® EdU Alexa Fluor® 488 High-Throughput Imaging (HCS) Assay *10-plate size* | 1 kit |
| A10044 | EdU (5-ethynyl-2'-deoxyuridine) | 50 mg |
| A10208 | Click-iT® EdU Alexa Fluor® 647 High-Throughput Imaging (HCS) Assay *2-plate size* | 1 kit |
| A10209 | Click-iT® EdU Alexa Fluor® 594 High-Throughput Imaging (HCS) Assay *2-plate size* | 1 kit |
| H1399 | Hoechst 33342, trihydrochloride, trihydrate | 100 mg |
| H3570 | Hoechst 33342, trihydrochloride, trihydrate *10 mg/mL solution in water* | 10 mL |
| H21492 | Hoechst 33342, trihydrochloride, trihydrate *FluoroPure™ grade* | 100 mg |
| V35003 | Vybrant® DyeCycle™ Violet stain *5 mM in water* *200 assays* | 200 µL |
| 14190-144 | Dulbecco's Phosphate Buffered Saline 1X without Calcium Chloride without Magnesium Chloride | 500 mL |
| 14190-250 | Dulbecco's Phosphate Buffered Saline 1X without Calcium Chloride without Magnesium Chloride | 10 x 500 mL |

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www.lifetechnologies.com

These high-quality reagents and materials must be used by, or directly under the supervision of, a technically qualified individual experienced in handling potentially hazardous chemicals. Read the Safety Data Sheet provided for each product; other regulatory considerations may apply.

Obtaining Support

For the latest services and support information for all locations, go to www.lifetechnologies.com.

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- Submit a question directly to Technical Support (techsupport@lifetech.com)
- Search for user documents, SDSs, vector maps and sequences, application notes, formulations, handbooks, certificates of analysis, citations, and other product support documents
- Obtain information about customer training
- Download software updates and patches

SDS

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Certificate of Analysis

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