



# Product Information

## EdU

Catalog Number: E6032

Product Size: 2 mg, 10 mg, 50 mg

## Parameters

Appearance: Solid soluble in water, PBS or saline

CAS No.: 252.23

Molecular Weight: 61135-33-9

## Storage

Store at -20°C. When stored as directed, product is stable for at least 12 months.

## Description

EdU, 5-Ethynyl-2'-deoxyuridine, is a thymine nucleoside analogue, which can replace thymine (T) in the cell proliferation stage and penetrate into the replicating DNA molecules. It can quickly detect DNA replication activity of cells through the specific reaction based on EdU and YF® dyes, It can detect cell proliferation quickly and accurately.

This product is applicable to the proliferation detection of cells in various tissues and organs (excluding blood vessels) of mice, rats and other animal models.

Previously, the most accurate method to detect cell proliferation was BrdU method, and EdU method was a revolutionary breakthrough of BrdU method. EdU (5-ethynyl-2-deoxyuridine) is a pyrimidine analogue that can be integrated into the DNA double strand during DNA synthesis. EdU method is based on the "Click" reaction, an atomic covalent reaction of azides and alkynes catalyzed by

copper.

## Instructions before experiment

This product needs to be used with YF® 488/555/594/647A Click-iT EdU Stain Kit (C6015/C6016/C6017/C6018) staining kit.

EdU is suitable for injection of various animals in vivo, with good stability and no obvious side effects for living animals. Target tissue can be prepared into paraffin or frozen tissue sections for detection; the reagent is also suitable for cell proliferation detection in vitro.

## Protocol

### Reagents required:

1×PBS (pH 7.2~7.6)

2 mg/mL glycine solution (prepared with deionized water)

0.5% Triton X-100 in PBS

Paraformaldehyde (4% paraformaldehyde in PBS)

Reagents related to tissue and section treatment (for animal experiment)

96/24/6 well plates (for cell experiment)

### Protocol animal experiment (taking 1 cm × 1 cm slice as an example):

Notes: It is suggested that initial injection dose of EdU is 5 mg/kg, and working solution concentration is 0.5-1 mg/mL.

Note: 1). Working solution can be configured with PBS or normal saline; 2). Stability of EdU will not be affected by further dilution.





**Table 1. Reference of labeling time and dose of EdU in animal experiment**

PubMed ID	Reference	Species	Method	Amount	Time	Tissue
18272492	Salic A, et al. PNAS. 2008	Mice	Intraperitoneal injection	100 µg	96 hr	Brain
19554638	Kaiser CL, et al. Laryngoscope. 2009	Chicken	Subcutaneous injection	50 mg/kg	72 hr	Cochlea r
19494148	Guo F, et al. J Neurosci. 2009	Mice	Intraperitoneal injection	100 µg/g body weight	3 hr	Brain
19179611	Veres. TZ, et al. Am J Pathol. 2009	Mice	Intraperitoneal injection	50 mg/kg	3 hr/20 hr	-
20664699	Wiley LA, et al. Mol Vis. 2010	Mice	Intraperitoneal injection	100~200 µg	1 hr	Eye
20163731	Schmidt EJ, et al. BMC Dev Biol. 2010	Mice	Intraperitoneal injection	200 µg	30 min	embryo
20064490	Zeng C, et al. Brain Res. 2010	Mice	Intraperitoneal injection	50 mg/kg	4 hr~30 d	Brain
20038597	Janas ML, et al. J Exp Med. 2010	Mice	Intraperitoneal injection	100 µg	4 hr	Thymi
21145612	Sun H, et al. J Hepatol. 2011	Mice	Intraperitoneal injection	100 µg	72 hr	-

Note: It can also refer to the injection time of BrdU experiment. The concentration of EdU shall be determined according to the initial concentration recommended in the manual or otherwise.

**DNA labeling with EdU:**

1 Injection method: For specific experiments, you can choose intraperitoneal injection, subcutaneous injection, intramuscular injection, caudal vein injection or other methods, among which intraperitoneal injection is the most widespread.

2 Labeling time: the best labeling time depends on specific purpose of the experiment. Tissue with fast proliferation, such as small intestine, should be labeled for a short time (<12 h). Tissue with slow proliferation, such as brain, may need a long time (such as 7 days or longer).

3 Labeling concentration: the best labeling concentration depends on specific labeling time, dose of 5 mg/kg is suitable

for most experiments.

4 Sampling site: according to experimental purpose, one-time labeling can be used for slicing of various tissues and organs. Because the proliferation of intestinal epithelial tissue is fast, it can be used as a reference for labeling.

Note: It is suggested that the proliferation of small intestine tissue can be detected in any experiment. The proliferation of small intestine epithelial cells is fast. Positive information can be detected 6 hours after injection of EdU in adult mice, which can be used as a positive control for pre experiment.

