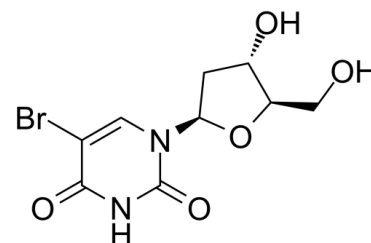


## Data Sheet

<b>Product Name:</b>	5-BrdU
<b>Cat. No.:</b>	CS-3028
<b>CAS No.:</b>	59-14-3
<b>Molecular Formula:</b>	C <sub>9</sub> H <sub>11</sub> BrN <sub>2</sub> O <sub>5</sub>
<b>Molecular Weight:</b>	307.10
<b>Target:</b>	Nucleoside Antimetabolite/Analog
<b>Pathway:</b>	Cell Cycle/DNA Damage
<b>Solubility:</b>	DMSO : ≥ 41 mg/mL (133.51 mM); H <sub>2</sub> O : 33.33 mg/mL (108.53 mM; Need ultrasonic)



### BIOLOGICAL ACTIVITY:

5-BrdU is a nucleoside analog that competes with thymidine for incorporation into DNA. 5-BrdU is commonly used in the detection of proliferating cells. **In Vitro:** Bromodeoxyuridine induces a progressive, dose-responsive suppression of cancer cell line and cancer stem cell population expansion RG2 rat glioma cells. In H9 cells and BJ fibroblasts, bromodeoxyuridine alters the cell cycle profile<sup>[1]</sup>. BrdU is stably integrated into the DNA, and thus can be used in assessment of cell proliferation and other cell procession<sup>[2]</sup>. **In Vivo:** Bromodeoxyuridine (300 mg/kg, i.p. or 0.8 mg/mL, p.o.) significantly slows tumor progression in rat glioma RG2 tumor model<sup>[1]</sup>.

### PROTOCOL (Extracted from published papers and Only for reference)

**Cell Assay:** <sup>[1]</sup>Cultures are initially plated at 2000 cells/cm<sup>2</sup> and are quantified with a Z2 Coulter Counter. RG2 rat glioma cells are treated once with 0, 1, 10, or 50 μM BrdU for 24 hours, and cumulative growth curves are obtained over 18 days. Control and treated cells are quantified and replated at equal densities on days 5, 12, and 18 after treatment.

### References:

[1]. Levkoff LH, et al. Bromodeoxyuridine inhibits cancer cell proliferation in vitro and in vivo. *Neoplasia*. 2008 Aug;10(8):804-16.

[2]. Rothausler K, et al. Assessment of cell proliferation by 5-bromodeoxyuridine (BrdU) labeling for multicolor flow cytometry. *Curr Protoc Cytom*. 2007 Apr;Chapter 7:Unit7.31

### CAIndexNames:

Uridine, 5-bromo-2'-deoxy-

### SMILES:

OC[C@@H]1[C@H](C[C@H](N2C(NC(C(Br)=C2)=O)=O)O1)O

**Caution: Product has not been fully validated for medical applications. For research use only.**

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