Product datasheet

Pitstop<sup>®</sup> 2, Novel cell-permeable clathrin inhibitor
ab120687

Overview

Product name
Pitstop<sup>®</sup> 2, Novel cell-permeable clathrin inhibitor

Description
Novel, selective cell-permeable clathrin inhibitor

Biological description
Novel, selective, cell membrane permeable clathrin inhibitor. Competitively inhibits clathrin terminal domain to selectively inhibit clathrin mediated endocytosis (CME) ($IC_{50} = 12 \mu M$ for inhibition of amphiphysin association of clathrin TD). Interferes with receptor mediated endocytosis (RME), entry of HIV and synaptic vesicle recycling.

Purity
> 98%

General notes
Sold under exclusive licence from Children's Medical Research Institute and Newcastle Innovation Ltd. Pitstop® is a trademark of Freie Universitat Berlin, Newcastle Innovation Ltd. and Children's Medical Research Institute

CAS Number
1419093-54-1

Chemical structure
![Chemical structure](attachment:image.png)

Properties

Chemical name
$N$-[5-(4-Bromobenzylidene)-4-oxo-4,5-dihydro-1,3-thiazol-2-yl]naphthalene-1-sulfonamide

Molecular weight
473.36

Molecular formula
C<sub>20</sub>H<sub>13</sub>BrN<sub>2</sub>O<sub>3</sub>S<sub>2</sub>

Storage instructions
Store at +4°C. Store under desiccating conditions. The product can be stored for up to 12 months.

Solubility overview
Soluble in DMSO. Please refer to the Protocol Booklet for more information.

Handling
Wherever possible, you should prepare and use solutions on the same day. However, if you need to make up stock solutions in advance, we recommend that you store the solution as aliquots in tightly sealed vials at -20°C. Generally, these will be useable for up to one month. Before use, and prior to opening the vial we recommend that you allow your product to equilibrate to room temperature.
temperature for at least 1 hour.

Need more advice on solubility, usage and handling? Please visit our frequently asked questions (FAQ) page for more details.

Source
Synthetic

Images

Hela cells were preincubated with DMSO (0.1%) or different doses of pitstop 2 (ab120687) ranging from 5 µM to 30 µM. Cells were then allowed to internalize Alexa594-Transferrin and antibodies to MHCI in the presence or absence of the drug for 30 min. After internalization, surface antibody was removed by low pH acid wash. Cells were then labeled with secondary antibodies to detect transferrin and MHCI.


A) Pitstop® 2 reversibly inhibits Tf uptake. After 15 min preincubation HeLa cells were incubated with Alexa Fluor® 568-Tf in the presence of DMSO or 30 µM Pitstop 2 for 15 min. Tf uptake is seen to resume after washout of the drug for 1 hr. Scale bar, 10 mm. B) Reversibility and dose dependence of Pitstop® 2-mediated inhibition of Tf uptake. Data represent SEM (n = 3 independent experiments; *p < 0.05, ***p < 0.0001). C) Pitstop® 2 inhibits EGF uptake. HeLa cells pretreated with 30 µM pitstop 2 or DMSO for 15 min were incubated for 15 min with Alexa Fluor® 488-EGF in the continued presence of inhibitor. Data represent SEM (n = 3 independent experiments; ***p < 0.0001). D) Pitstop 2 does not interfere with AP-2-mediated cargo sequestration into CCPs. TIRF microscopy images of Cos7 cells pretreated with DMSO or 30 µM Pitstop 2 for 15 min were incubated with Alexa Fluor® 488-EGF at 8oC in the continued presence of inhibitor and immunostained for AP-2α (red). Scale bar, 4 mm. E) Pearson’s

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