
OPP (O-Propargyl-puromycin)

<http://www.lumiprobe.com/p/o-propargyl-puromycin>

O-Propargyl-puromycin (OPP, OP-puro) is a synthetic alkyne analog of puromycin designed for the non-radioactive labeling, visualization, and affinity purification of newly synthesized (nascent) proteins in cells and whole organisms. The compound combines the mechanism of action of puromycin (premature translation termination) with a terminal alkyne moiety, enabling click chemistry reactions (CuAAC) with [azide-labeled fluorophores](#) or affinity tags.

Unlike methionine analogs (such as [AHA](#) or [HPG](#)), OPP does not require methionine-free media and allows labeling in complete culture media. Furthermore, the compound is suitable not only for cell cultures but also for *in vivo* labeling in whole organisms.

OPP is widely used to study the regulation of translation, cell growth, stress responses, neurodegenerative diseases, and oncology, as well as to evaluate the effects of protein synthesis inhibitors.

General properties

Appearance: white-off solid

Molecular weight: 495.54

CAS number: 1416561-90-4

Molecular formula: $C_{24}H_{29}N_7O_5$

IUPAC name: (2S)-2-amino-N-[(2S,3S,4R,5R)-5-[6-(dimethylamino)purin-9-yl]-4-hydroxy-2-(hydroxymethyl)oxolan-3-yl]-3-(4-prop-2-ynoxyphenyl)propanamide

Solubility: DMSO, DMF

Quality control: NMR 1H and HPLC-MS (95+%)

Storage conditions: 24 months after receipt at -20 °C in the dark. Transportation: at room temperature for up to 3 weeks. Desiccate.

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