# LYP-IN-1

**Cat. No.:** HY-108944

**CAS No.:** 1404436-51-6

**Molecular Formula:** $C_{28}H_{20}ClNO_6$

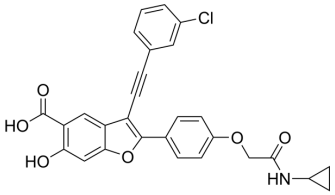
**Molecular Weight:** 501.91

**Target:** Phosphatase; SHP2

**Pathway:** Metabolic Enzyme/Protease; Protein Tyrosine Kinase/RTK

**Storage:**

| | | |
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 6 months |
| | -20°C | 1 month |




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 2 mg/mL (3.98 mM; ultrasonic and warming and heat to 60°C)

**Preparing Stock Solutions**

| Concentration \ Solvent \ Mass | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 1.9924 mL | 9.9619 mL | 19.9239 mL |
| 5 mM | --- | --- | --- |
| 10 mM | --- | --- | --- |

Please refer to the solubility information to select the appropriate solvent.

## BIOLOGICAL ACTIVITY

**Description**

LYP-IN-1 is a potent, selective and specific LYP inhibitor with a $K_i$ and an $IC_{50}$ of 110 nM and 0.259 μM, respectively. LYP-IN-1 also has selectivity for a large panel of PTPs, such as SHP1 ($IC_{50}$=5 μM) and SHP2 ($IC_{50}$=2.5 μM). LYP-IN-1 exhibits highly efficacious cellular activity in T- and mast cells. LYP-IN-1 can be used for the study of autoimmune disorders[1]. LYP-IN-1 is a click chemistry reagent, it contains an Alkyne group and can undergo copper-catalyzed azide-alkyne cycloaddition (CuAAc) with molecules containing Azide groups.

**$IC_{50}$ & Target**

IC50: 0.259 μM (LYP)
Ki: 110 nM (LYP)[1]

**In Vitro**

LYP-IN-1 has inhibitory activity toward a panel of mammalian PTPs including SHP1, SHP2, PTP-Meg2, FAP1 and PTP-PEST, with $IC_{50}$ values of 5 μM, 2.5 μM, 0.59 μM, 0.39 μM, and 0.8 μM, respectively[1].
LYP-IN-1 (15 μM) increases both basal and TCR-stimulated phosphorylation of ZAP-70 on Tyr319 in JTAg cells[1].
LYP-IN-1 (15 μM) treatment of mouse thymocytes effectively causes an increase in the activation of double-positive (DP) thymocytes, it increased surface expression of CD69 (a marker of T cell activation) and Nur77[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

[1]. A Potent and Selective Small-Molecule Inhibitor for the Lymphoid-Specific Tyrosine Phosphatase (LYP), a Target Associated With Autoimmune Diseases



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