

## Certificate of Analysis

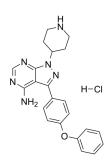
## N-piperidine Ibrutinib (hydrochloride)

Cat. No.:	HY-130983
CAS No.:	2231747-18-3
Batch No.:	104891
Chemical Name:	1H-Pyrazolo[3,4-d]pyrimidin-4-amine, 3-(4-phenoxyphenyl)-1-(4-piperidinyl)-, hydrochloride (1: 1)

## PHYSICAL AND CHEMICAL PROPERTIES

Molecular Formula:	C <sub>22</sub> H <sub>23</sub> ClN <sub>6</sub> O	
Molecular Weight:	422.91	
Storage:	-20°C, sealed storage, away from moisture and light	
	* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and	
	light)	

**Chemical Structure:** 



## ANALYTICAL DATA

Appearance:	White to off-white (Solid)
<sup>1</sup> H NMR Spectrum:	Consistent with structure
LCMS:	Consistent with structure
Purity (LCMS):	95.30%
Conclusion:	The product has been tested and complies with the given specifications.

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

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