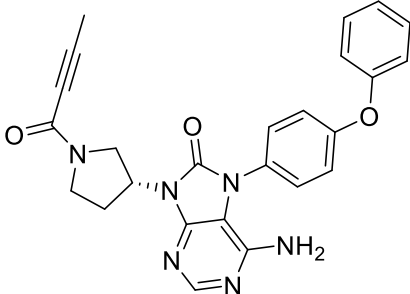




Certificate of Analysis

MedKoo Cat#:	Product Name:	Lot#:
206611	Tirabrutinib free base	BBC61104

Chemical name	
(R)-6-amino-9-(1-(but-2-ynoyl)pyrrolidin-3-yl)-7-(4-phenoxyphenyl)-7,9-dihydro-8H-purin-8-one	
Synonyms	
ONO-4059; ONO4059; ONO 4059; ONO-4059; GS 4059; GS-4059; GS4059; ONO-WG-307; Tirabrutinib	
Chemical structure	CAS# and Theoretical analysis
	MedKoo Cat#: 206611 Name: Tirabrutinib free base CAS#: 1351636-18-4 (free base). Lot#: BBC61104 Chemical Formula: C ₂₅ H ₂₂ N ₆ O ₃ Exact Mass: 454.1753 Molecular Weight: 454.49

Analysis item	Specifications / Results
Appearance	White to off-white solid powder
Structure	¹ H-NMR analysis matches the structure. MS analysis gives the correct molecule weight. Both NMR and MS data are consistent with those reported in the literature.
Purity (HPLC)	>99%
Solubility	Soluble in DMSO.
Conclusion	This product conforms with MedKoo's quality standards
Shipping condition	Shipped under ambient temperature as non-hazardous chemical. This product is stable for a few weeks during ordinary shipping and time spent in customs.
Storage condition	Short term storage (weeks): 0 – 4 °C under dry condition Long term storage (months): -20 °C under dry condition
Shelf life	At least 5 years if properly stored.

CAUTION: NOT FULLY TESTED. FOR RESEARCH ONLY, NOT FOR HUMAN USE