

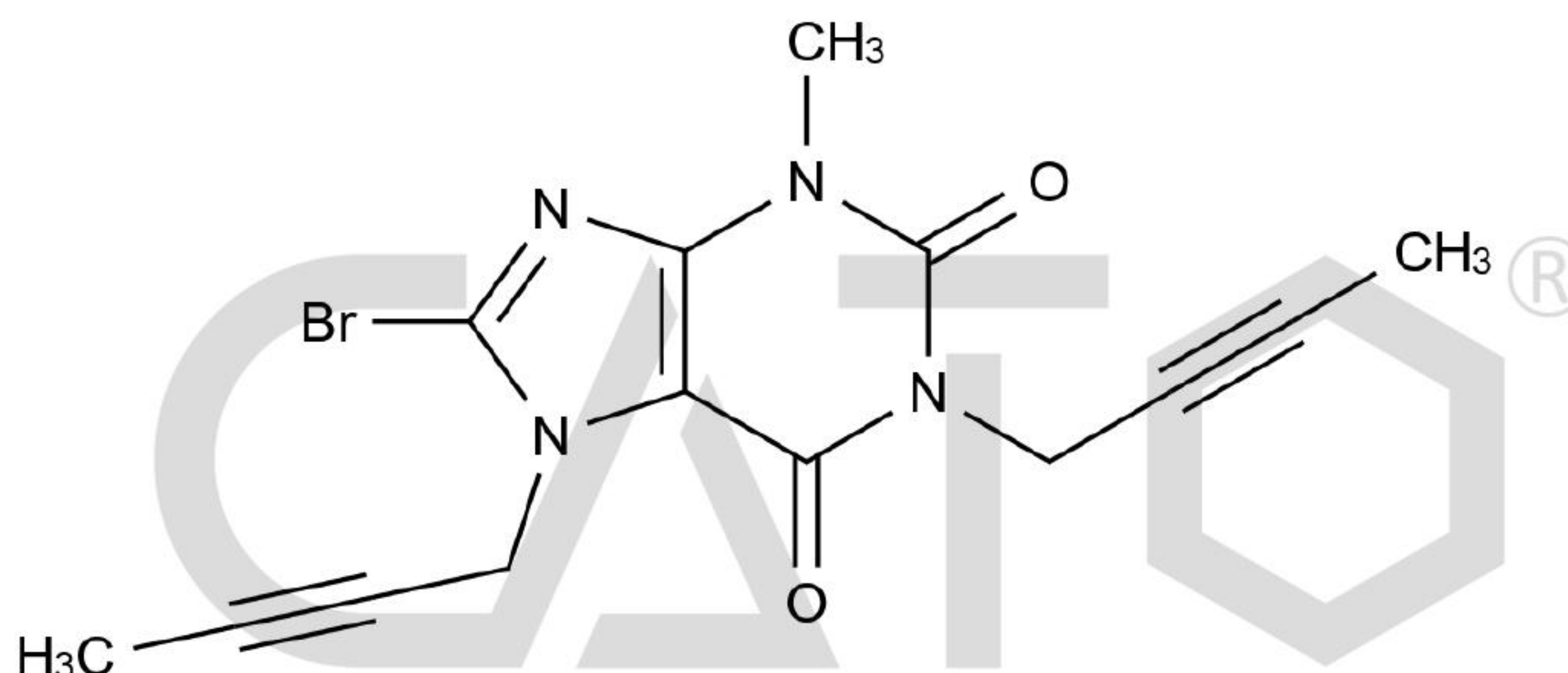
Certificate of Analysis

Reference Material & Standard

Product Name:	Linagliptin Impurity 83	Catalogue Number:	C4X-110183
Synonyms:	8-Bromo-1,7-di(but-2-yn-1-yl)-3-methyl-3,7-dihydro-1H-purine-2,6-dione	Lot Number:	0611-RH-0127
CAS Number:	2436762-89-7	Expiry Date:	Jun 23, 2030
Molecular Formula:	C ₁₄ H ₁₃ BrN ₄ O ₂	Storage:	2°C ~ 8°C Sealed
Molecular Weight:	349.18	Shipping Condition:	Shipping at Room Temperature
Solubility:	Soluble in Acetonitrile and Chloroform	Warning:	



Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Off-White Solid
Identification	LCMS&IR&CNMR&HNMR	Confirmed
Purity	HPLC	99.700%
Residue on Ignition	TGA	0.6141%
Loss on Drying	TGA	0.0784%
Assay	qNMR	99.0%
Assay	Mass Balance	99.0%

Comment:

- The retest date of this product is Jun 23, 2029.
- The calculation of the mass balance method follows the formula (calculated on the non-dried basis):

$$\text{Assay (\%)} = (100\% - \text{Residue on Ignition} - \text{Loss on Drying}) * \text{Purity HPLC (\%)} / 100\%$$
Residue on Ignition and Loss on Drying are considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by:

Koi

Reviewed by:

Alice

Approved by General Manager:

David

Date: Jun 24, 2026

Date: Jun 24, 2026

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