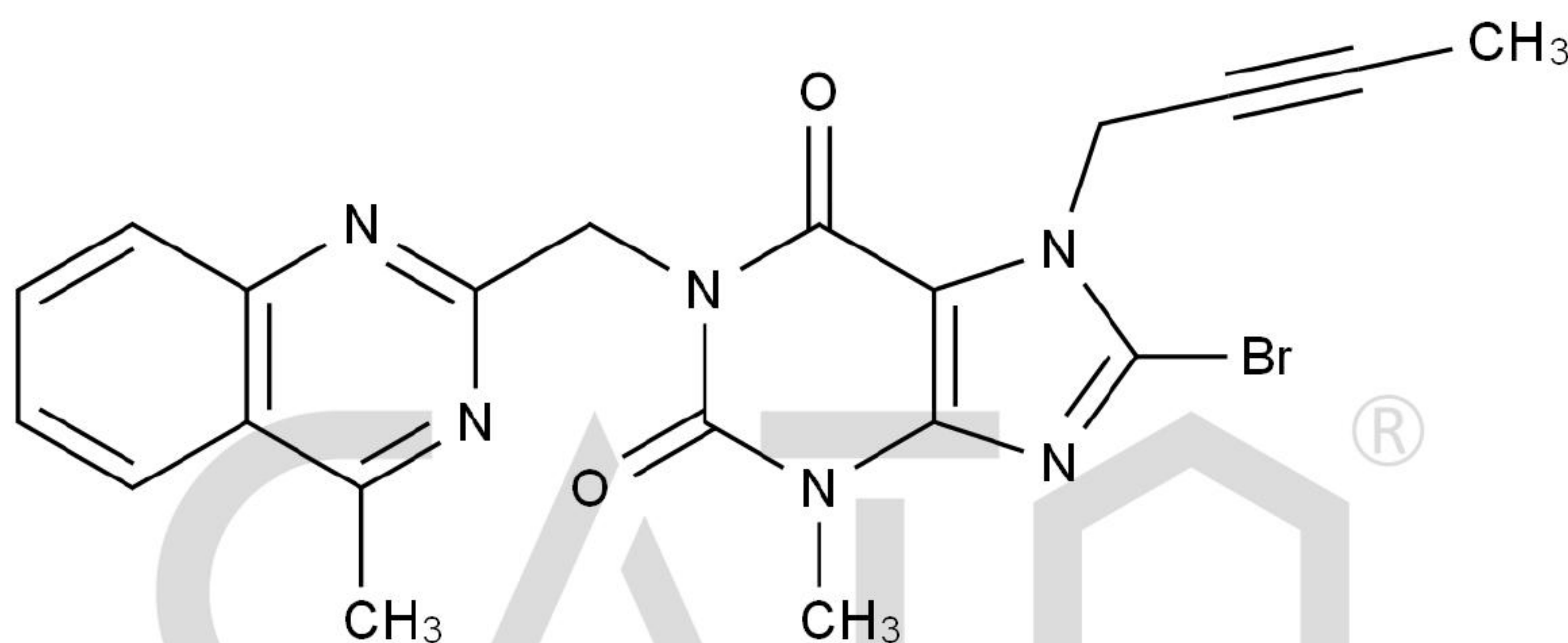


Certificate of Analysis

Reference Material & Standard

Product Name:	Linagliptin Impurity 48	Catalogue Number:	C4X-110148
Synonyms:	N/A	Lot Number:	0927-RD-0059
CAS Number:	853029-57-9	Expiry Date:	Aug 21, 2029
Molecular Formula:	C ₂₀ H ₁₇ BrN ₆ O ₂	Storage:	2°C ~ 8°C Protected from light and Sealed
Molecular Weight:	453.29		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	White to Off-White Solid
Identification	LCMS&HNMR	Confirmed
Purity	HPLC	99.874%
Residual Solvents	NMR	1.39% dichloromethane
Loss On Drying	TGA	0.0547%
Assay		99.8%

Comment:

The calculation of the 100% method follows the formula (calculated on the non-dried basis):

Assay (%) = (100% - Loss On Drying) * Purity HPLC (%) / 100%

Loss On Drying is considered as absolute effect, HPLC purity is considered as relative effect.

Signature:

Prepared by:

Koi

Reviewed by:

Lisa

Approved by General Manager:

David

Date: Aug 22, 2025

Date: Aug 22, 2025

Date: Aug 22, 2025

