

# Certificate of Analysis

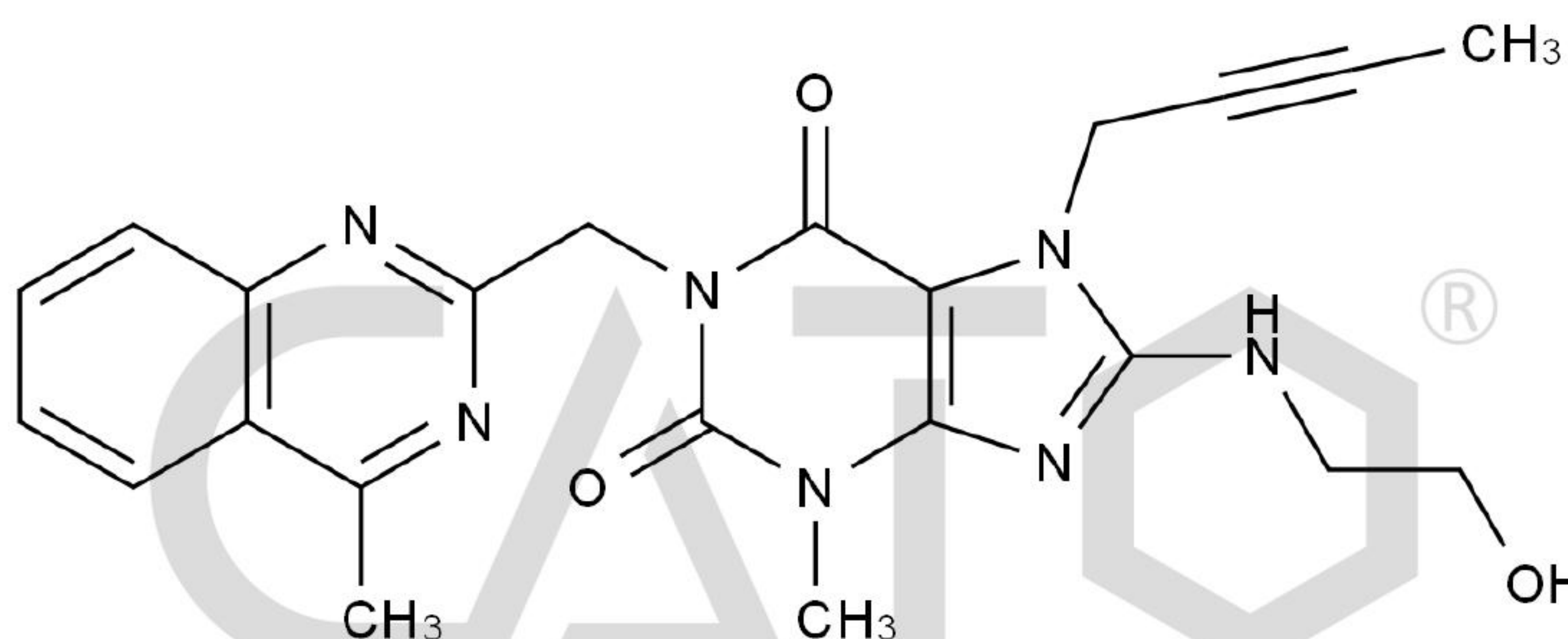
## Reference Material & Standard

|                    |                                                               |                     |                                           |
|--------------------|---------------------------------------------------------------|---------------------|-------------------------------------------|
| Product Name:      | Linagliptin Impurity 41                                       | Catalogue Number:   | C4X-110141                                |
| Synonyms:          | N/A                                                           | Lot Number:         | 0526-RH-0099                              |
| CAS Number:        | 2074688-84-7                                                  | Expiry Date:        | May 31, 2030                              |
| Molecular Formula: | C <sub>22</sub> H <sub>23</sub> N <sub>7</sub> O <sub>3</sub> | Storage:            | 2°C ~ 8°C Protected from light and Sealed |
| Molecular Weight:  | 433.46                                                        | Shipping Condition: | Shipping at Room Temperature              |

Warning:



Chemical Structure:



| Test Items     | Method            | Results      |
|----------------|-------------------|--------------|
| Appearance     | Visual inspection | Yellow Solid |
| Identification | LCMS&HNMR         | Confirmed    |
| Purity         | HPLC              | 98.993%      |
| Loss on Drying | TGA               | 0.4680%      |
| Assay          |                   | 98.5%        |

## Comment:

The calculation of the mass balance 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:

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Date: Jun 01, 2026

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Page 1 of 6



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