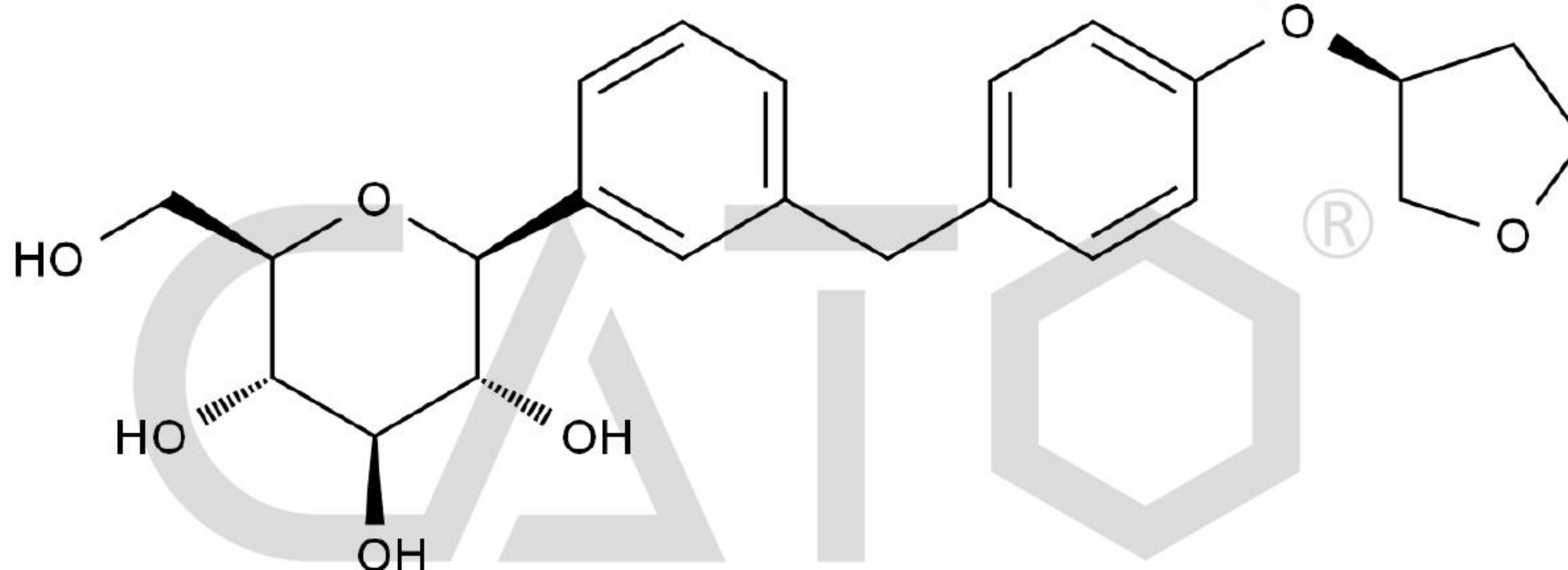


Certificate of Analysis

Reference Material & Standard

Product Name:	Empagliflozin Impurity 23	Catalogue Number:	C4X-106523
Synonyms:	(2R,3S,4R,5R,6S)-2-(hydroxymethyl)-6-(3-(4-(((S)-tetrahydrofuran-3-yl)oxy)benzyl)phenyl)tetrahydro-2H-pyran-3,4,5-triol	Lot Number:	0416-RH-0054
CAS Number:	2452301-27-6	Expiry Date:	May 11, 2030
Molecular Formula:	C ₂₃ H ₂₈ O ₇	Storage:	2°C ~ 8°C Sealed
Molecular Weight:	416.46	Shipping Condition:	Shipping at Room Temperature
Solubility:	Soluble in Acetonitrile and DMSO	Warning:	

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	White Solid
Identification	LCMS&IR&CNMR&HNMR	Confirmed
Purity	HPLC	98.087%
Water Content	Karl Fischer	1.9385%
Residual Solvents	NMR	Not detected in NMR
Residue on Ignition	TGA	0.5060%
Assay	qNMR	94.7%
Assay	Mass Balance	95.7%

Comment:

- The retest date of this product is May 11, 2029.
- The calculation of the mass balance method follows the formula (calculated on the non-dried basis):

$$\text{Assay (\%)} = (100\% - \text{Water Content} - \text{Residual Solvents} - \text{Residue on Ignition}) * \text{Purity HPLC (\%)} / 100\%$$

Water Content, Residual Solvents and Residue on Ignition 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: May 12, 2026

Date: May 12, 2026

Date: May 12, 2026

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