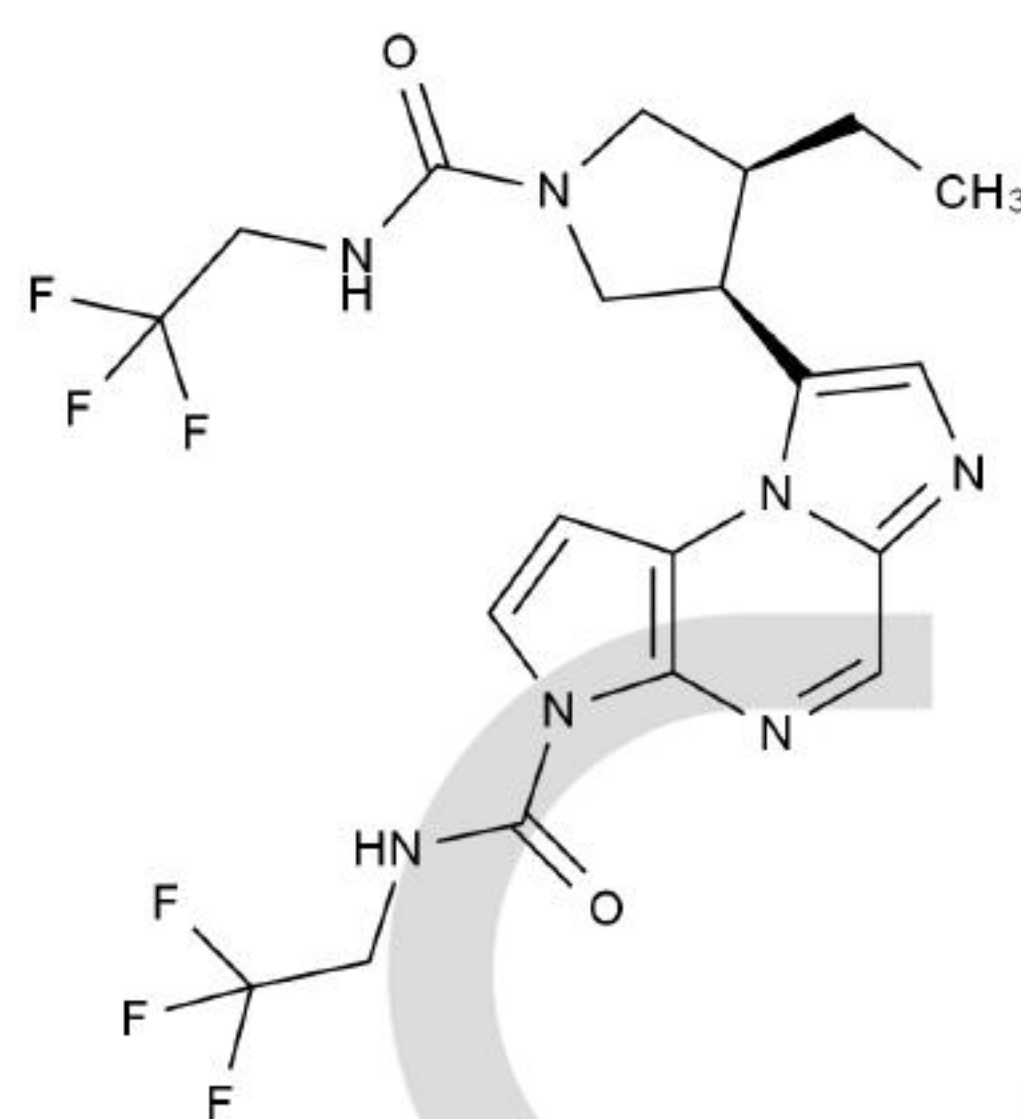


Certificate of Analysis

Reference Material & Standard

Product Name:	Upadacitinib Impurity 21	Catalogue Number:	C4X-240521
Synonyms:	8-[(3R,4S)-4-ethyl-1-[(2,2,2-trifluoroethyl)carbamoyl]pyrrolidin-3-yl]-N-(2,2,2-trifluoroethyl)-3H-imidazo[1,2-a]pyrrolo[2,3-e]pyrazine-3-carboxamide	Lot Number:	0313-RH-0061
CAS Number:	2715120-86-6	Expiry Date:	Apr 08, 2030
Molecular Formula:	C ₂₀ H ₂₁ F ₆ N ₇ O ₂	Storage:	2°C ~ 8°C Sealed
Molecular Weight:	505.42	Shipping Condition:	Shipping at Room Temperature
Solubility:	Soluble in Acetonitrile and DMSO		

Chemical Structure:



Test Items	Method	Results
Appearance	Visual inspection	Off-White Solid
Identification	LCMS&IR&CNMR&HNMR	Confirmed
Purity	HPLC	99.981%
Water Content	Karl Fischer	3.6681%
Residual Solvents	NMR	Not detected in NMR
Residue on Ignition	TGA	0.2797%
Assay	qNMR	96.3%
Assay	Mass Balance	96.0%

Comment:

- The retest date of this product is Apr 08, 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 06, 2026

Date: May 06, 2026

Date: May 06, 2026



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