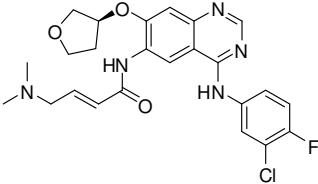




Certificate of Analysis

Axon Catalogue ID:	1544	Batch Number:	2																								
Product Name:	BIBW 2992																										
Alternative Name(s):	Afatinib																										
IUPAC Name:	(S,E)-N-(4-(3-chloro-4-fluorophenylamino)-7-(tetrahydrofuran-3-yloxy)quinazolin-6-yl)-4-(dimethylamino)but-2-enamide																										
Structure:		Amount:																									
CAS number(s):	850140-72-6																										
Molecular Formula:	C ₂₄ H ₂₅ ClFN ₅ O ₃	Molecular Weight:	485.94																								
Batch Molecular Formula:	C ₂₄ H ₂₅ ClFN ₅ O ₃	Batch Molecular Weight:	485.94																								
Appearance:	Buff solid	Observed mp:	135 - 138 °C (decomp)																								
TLC (R_f):	0.35	DCM/MeOH (9:1)																									
Chemical Purity:	99.6%																										
Optical Purity (ee):	N.A.																										
¹H-NMR (300 MHz):	Analytical data confirm chemical structure																										
Mass Spec:	Analytical data confirm chemical structure																										
Microanalysis:	Calculated: C 59.32, H 5.19, N 14.41; Found: C ND, H ND, N ND																										
Storage Conditions:	Store at +4 °C																										
Solubility Data:	<table><thead><tr><th>Solvent</th><th>Solubility (mg/ml)</th><th>Solubility (mM)</th><th>Remarks</th></tr></thead><tbody><tr><td>Water</td><td></td><td></td><td>Not Tested</td></tr><tr><td>0.1N NaOH (aq)</td><td></td><td></td><td>Not Tested</td></tr><tr><td>0.1N HCl (aq)</td><td></td><td></td><td>Not Tested</td></tr><tr><td>DMSO</td><td>40.0</td><td>82.3</td><td></td></tr><tr><td>EtOH</td><td></td><td></td><td>Not Tested</td></tr></tbody></table>	Solvent	Solubility (mg/ml)	Solubility (mM)	Remarks	Water			Not Tested	0.1N NaOH (aq)			Not Tested	0.1N HCl (aq)			Not Tested	DMSO	40.0	82.3		EtOH			Not Tested		
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Remarks:	CAS number for chemical structure with E/Z undefined: [439081-18-2]																										
QC Date:	06-05-2011																										

The purity of Axon Ligands is confirmed by HPLC, MS, NMR and/or microanalysis. Analytical data are available upon request. Request can be submitted by e-mail to info@axonmedchem.com indicating Catalogue ID and Batch number.

Caution: Not fully tested. For research purposes only