

CERTIFICATE OF QUALITY

No.: 1611D319

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CUSTOMER: A.C.E.F. S.p.A

PRODUCT: **ALPROSTADIL**
7-((1R,2R,3R*)-3-Hydroxy-2-[(E)-(3S)-3-hydroxy-1-octenyl]-5-oxocyclopentyl)-heptanoic acid
C₂₀H₃₄O₅ = 354.5
CAS – 745-65-3

BATCH No.: 1603S002

PRODUCTION DATE: 03/2016

ATEST No.: A160054

QUANTITY: 1.0 g

RETEST DATE: 03/2019

TEST METHOD:	SPECIFICATION:	RESULT:
1. Identification		
a) by IR spectrum	IR spectrum conforms with IR of RS Ph.Eur.	IR spectrum conforms
b) by RT WS HPLC	K = 0.90 – 1.10 RT of RS	1.00
2. Appearance		
a) visual	a white or off-white crystalline material	a white crystalline material
b) by absorbance	the sum of absorbance NMT 0.150	0.004
3. Assay (HPLC, calculated with reference to anhydrous substance, abs. %):		
	96.0 - 102.5 % *	100.0 %
4. HPLC purity (Ph.Eur. HPLC method, norm. %):		
a) PGA ₁	NMT 1.3 %	0.1 %
b) PGB ₁	NMT 0.1 %	not detected
other impurities		
c) 15-keto-PGE ₁	NMT 0.1 %	not detected
d) 15(R)-PGE ₁	NMT 0.1 %	not detected
e) 11(β)-PGE ₁	NMT 0.5 %	not detected
f) 8-iso-PGE ₁	NMT 0.1 %	not detected
g) PGE ₂	NMT 0.5 %	not detected
h) 5-trans-PGE ₂	NMT 0.5 %	not detected
i) PGE ₁ ethylester	NMT 0.3 %	not detected

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TEST METHOD:	SPECIFICATION:	RESULT:
j) PGE ₁ isopropylester	NMT 0.3 %	not detected
k) TPPO	NMT 0.5 %	not detected
l) unspecified impurities single	NMT 0.10 %	not detected
m) impurities total	NMT 1.5 %	0.1 %
5. HPLC purity (in-house HPLC method, mol. %):		
a) 14-methyl-PGE ₁	NMT 0.15 %	not detected
b) PGD ₁	NMT 0.1 %	not detected
c) 4-trans-PGE ₂	NMT 0.15 %	not detected
d) 6-trans-PGE ₂	NMT 0.15 %	0.05 %
e) 13,14-dihydro-PGE ₁	NMT 0.15 %	not detected
f) unspecified impurities single	NMT 0.10 %	0.06 %
6. Water content	NMT 0.5 %	0.1 %
7. Residue on ignition	NMT 0.5 %	< 0.1 %
8. Spec. optic rotation (c=1, ethanol) [α] _D ²⁰	-70.0° to -60.0°	- 68.1°
9. Content of solvents (USP GC method):		
a) Acetone	NMT 0.5 %	< 0.5 %
b) Chloroform	NMT 10 ppm	not detected
c) n-Hexane	NMT 290 ppm	not detected
d) Dichloromethane	NMT 5 ppm	not detected
e) Tetrahydrofurane	NMT 10 ppm	not detected
f) Ethyl acetate	NMT 300 ppm	not detected
g) tert. Butyl methyl ether	NMT 300 ppm	not detected
h) Methyl alcohol	NMT 300 ppm	not detected
i) Isopropyl alcohol	NMT 300 ppm	not detected
j) n-Heptane	NMT 300 ppm	not detected
k) Toluene	NMT 20 ppm	not detected
l) n-Pentane	NMT 300 ppm	< 300 ppm
11. Heavy metals:		
a) rhodium content	NMT 20 ppm	11 ppm
b) chromium content	NMT 20 ppm	1 ppm

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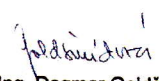
TEST METHOD:	SPECIFICATION:	RESULT:
12. Microbial testing (CFU/g):		
Total aerobic microbial count	NMT 10^2 (2×10^2) CFU/g	<10 CFU/g
Total yeasts & moulds count	NMT 10^1 (2×10^1) CFU/g	< 10 CFU/g
Specific microorganisms:		
- Bile-tolerant G^- bacteria	0 CFU/g	not found
- Salmonella sp.	0 CFU/g	not found
- Escherichia coli	0 CFU/g	not found
- Staphylococcus aureus	0 CFU/g	not found
- Pseudomonas aeruginosa	0 CFU/g	not found

* 95.0 - 102.5 % at re-testing

RESULT: Product has been manufactured in accordance with principles of GMP as detailed in ICH Guideline Q7A

Product conforms to the specification in SBR380K/06, App. No. 1

Note: Product conforms to the specification in Ph. Eur. 8 and Microbial testing of product conforms to the specification in Ph. Eur. 8, harmonised method.


Ing. Dagmar Goldšmidová
Authorized Person
(pursuant to EudraLex 4/II, §2.14 & §2.32.1)

Date: Nov 22, 2016