



CERTIFICATE OF ANALYSIS

Material Name	RAMIPRIL IMPURITY A	
Chemical Name	(2S,3aS,6aS)-Octahydro-1-[(2S)-2-[[[(1S)-1-(methoxycarbonyl)-3-phenylpropyl]amino]-1-oxopropyl]cyclopenta[b]pyrrole-2-carboxylic Acid; Ramipril related compound A	
Mol. Formula	C ₂₂ H ₃₀ N ₂ O ₅	
Mol. Weight	402.48 g/mol	
Batch No.	SP-023-164	
CAS No.	108313-11-7	
CAT No.	R020001	
Analysis Date	May-2018	
Re-Test Date	Apr-2021	
Long term storage condition	Store at 2°C to 8°C	
Shipping condition	Ambient	

TESTS

DESCRIPTION:

IDENTIFICATION:

1. ¹H-NMR
2. MASS
3. IR

RESULTS

White solid

Confirms to the structure
Confirms to the structure
Confirms to the structure

CHROMATOGRAPHIC

PURITY (By HPLC, area Normalization)

97.64%

TGA

(Weight Loss: 30°C to 100°C)
(30° to 450°, rate: 20°C/min)

1.02%w/w

DEFINED POTENCY

96.62%w/w

Prepared by:	Reviewed by:
Date: 02/10/2018	Date: 02/10/2018

Quality Accreditations: ISO 9001:2015, ISO/IEC 17025:2005, GLP Certified

SimSon Pharma Limited

R-307 New Sarita Building Prabhkar Ind. Estate Nr. Dahisar, Toll Naka, Dahisar (E), Mumbai-400068



CERTIFICATE OF ANALYSIS

Material Name	RAMIPRIL IMPURITY D	
Chemical Name	Ethyl (2S)-2-[(3S,5aS,8aS,9aS)-3-methyl-1,4-dioxodecahydro-2H-cyclopenta[4,5]pyrrolo[1,2-α]pyrazin-2-yl]-4-phenylbutanoate (ramipril diketopiperazine)	
Molecular Formula	C ₂₃ H ₃₀ N ₂ O ₄	
Molecular Weight	398.5 g/mol	
Batch No.	SP-028-152	
CAS No.	108731-95-9	
CAT No.	R020004	
Analysis Date	Jul-2018	
Re-Test Date	Jun-2021	
Long term storage condition	Store at 2 ⁰ C to 8 ⁰ C	
Shipping condition	Ambient	

TEST

RESULTS

DESCRIPTION:

White solid

IDENTIFICATION

1. ¹H-NMR
2. MASS
3. IR

Conforms to the structure
 Conforms to the structure
 Conforms to the structure

CHROMATOGRAPHIC
 PURITY (By HPLC, area
 Normalization)

98.27%

TGA

(Weight Loss: 30° C to 100° C)
 (30° to 450°, rate: 20°C/min)

1.08%w/w

DEFINED POTENCY

97.19%w/w

Prepared by:	Reviewed by:
Date: 02/10/2018	Date: 02/10/2018

Quality Accreditations: ISO 9001:2015, ISO/IEC 17025:2005, GLP Certified

SimSon Pharma Limited

B-307, New Sarita Building, Prabhat Ind. Estate Nr. Dahisar, Toll Naka, Dahisar (E), Mumbai- 400068

**CERTIFICATE OF ANALYSIS**

Material Name	RAMIPRIL IMPURITY E	
Chemical Name	(2S,3aS,6aS)-1-[(2S)-2-[[[(1S)-1-carboxy-3-phenylpropyl]-amino]propanoyl]octahydrocyclopenta[b]pyrrole-2-carboxylic acid; Ramipril diacid	
Mol. Formula	C ₂₁ H ₂₈ N ₂ O ₅	
Mol. Weight	388.46 g/mol	
Batch No.	SP-027-084	
CAS No.	87269-97-4	
CAT No.	R020005	
Analysis Date	June-2018	
Re-Test Date	May-2021	
Long term storage condition	Store at 2° to 8°C	
Shipping condition	Ambient	

TESTS**DESCRIPTION:****IDENTIFICATION:**

1. ¹H-NMR
2. MASS
3. IR

**CHROMATOGRAPHIC
PURITY** (By HPLC, area
Normalization)
TGA
 (Weight Loss: 30°C to 60°C)
 (30 to 450°C, rate: 20°C/min)
DEFINED POTENCY**RESULTS**

Off-White Solid

 Confirms to the structure
 Confirms to the structure
 Confirms to the structure

95.39 %

1.10%w/w

94.29%w/w

Prepared by:	Reviewed by:
Date: 02/10/2018	Date: 02/10/2018

Quality Accreditations: ISO 9001:2015, ISO/IEC 17025:2005, GLP Certified

SimSon Pharma Limited