

4282-002

Key Words: Allopurinol, Poor Flowability, Direct Compression
JRS Products: VIVAPUR® 102, VIVASTAR® P

Allopurinol Direct Compression

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Summary

Allopurinol is used for the treatment of diseases caused by excessive uric acid levels in the blood.

It is most commonly used to prevent flareups of chronic gout (gouty arthritis). It is also used to treat certain kinds of kidney

stones and other kidney problems.

Allopurinol can be directly compressed using **VIVAPUR®** Microcrystalline Cellulose as a binder. Common dosages are 100 and 300 mg.

Formulation

	Active content [mg]	mg/tablet	Contribution [%]
Allopurinol	100.0	100.0	55.6
VIVAPUR® 102 (Microcrystalline Cellulose)		72.0	40.0
VIVASTAR® P (Sodium Starch Glycolate)		7.0	3.8
Magnesium Stearate		1.0	0.6
Total		180.0	100.0

Procedure

Blending:

Allopurinol, **VIVAPUR® 102** and **VIVASTAR® P** were mixed in a turbula mixer for 15 minutes. Then sieved magnesium stearate was added and mixed for another 3 minutes. The powder mixture was ready for direct compression.

Equipment:

Tablet Press:	Korsch EK 0 excentric press, 9 mm punch, biplane
Turbula Mixer:	Type T2A
Hardness Tester:	Pharmatest PTB 311, n=6
Friability Tester:	Erweka TAP
Disintegration Tester:	Erweka ZT 3
Dissolution Tester:	Pharmatest PTW II, with 6 vessels, flat blade paddle
Spectrophotometer:	Shimadzu UV-2101 PC

Tablet Characteristics

Tablet Weight:	180 mg
Tablet Diameter:	9 mm
Compaction Force:	25 kN
Crushing Strength:	91 N
Disintegration Time:	10 s

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Dissolution Test:

Dissolution Medium: 900 mL 0.1 N HCl, 37°C, n=6

Samples were taken after 5, 10, 15, 30, 45 and 65 minutes. The sample volume was 3 mL. Samples were diluted when necessary. The determination of the active ingredient was done by an UV-spectrophotometer at $\lambda = 248.8$ nm.

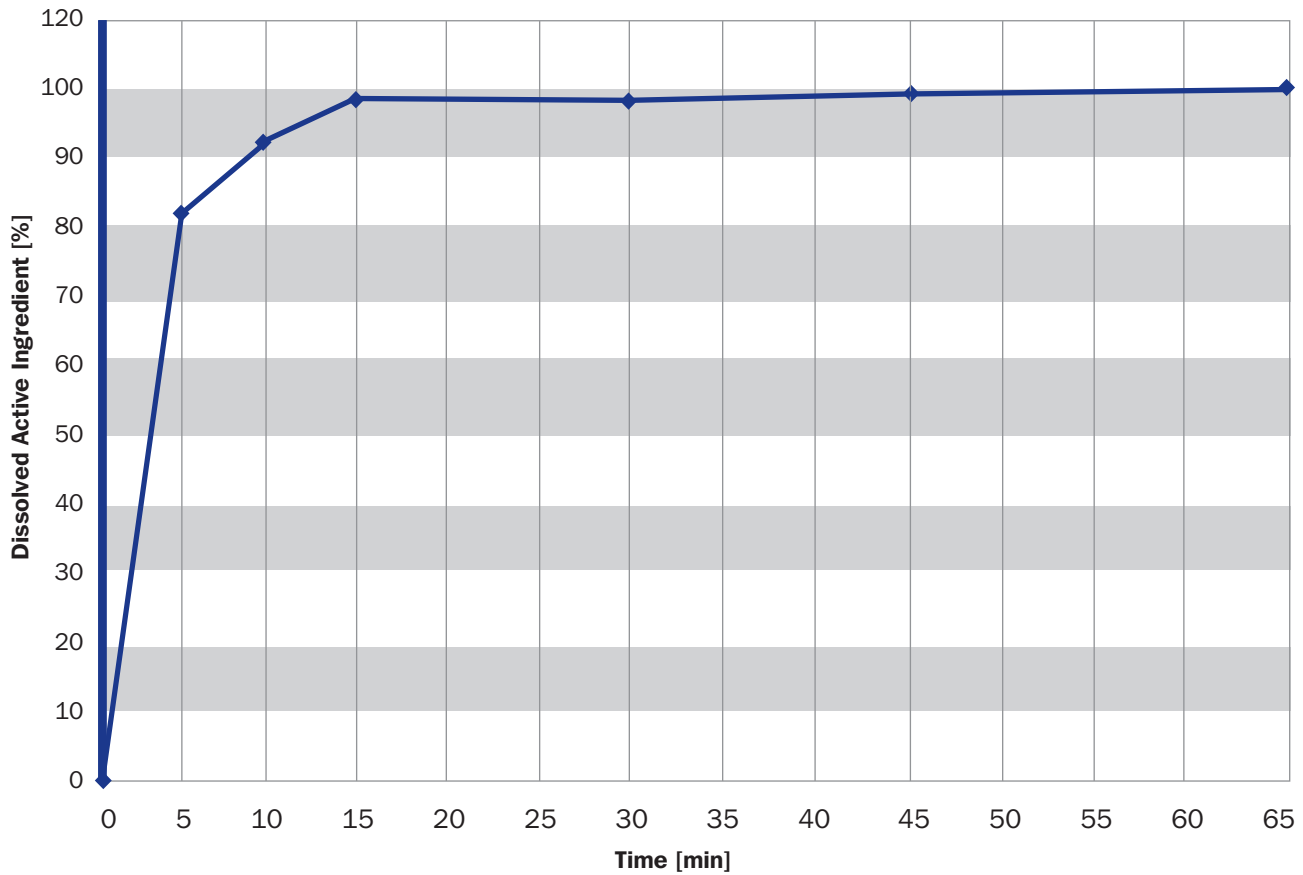


Diagram 1:

Typical dissolution profile diagram of an Allopurinol tablet. Produced according to the above formulation.

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