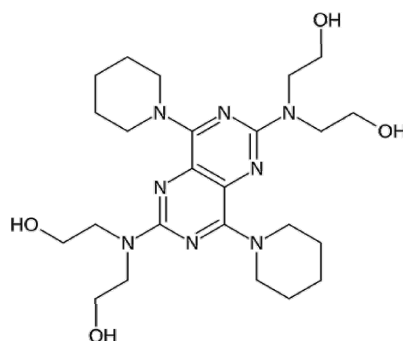


## Dipyridamole and Related Substances (EP)



Dipyridamole

Dipyridamole inhibits thrombus formation when given chronically and causes vasodilatation when given at high doses over a short time. Common tradename is Persantine.

The current EP monograph method for Dipyridamole and related substances specifies the use of a 100x4.0 mm column with end-capped octadecylsilyl (ODS or RP-18) silica gel for chromatography R (5  $\mu$ m). The relative retention with reference to dipyridamole (retention time = about 8 min); impurity B = about 0.2; impurity F = about 0.3; impurity D = about 0.9; impurity E = about 1.3; impurity C = about 1.6; impurity A = about 2.2.– The system suitability criteria also specify a minimum resolution of 2.0 between the peaks due to impurity D and dipyridamole.

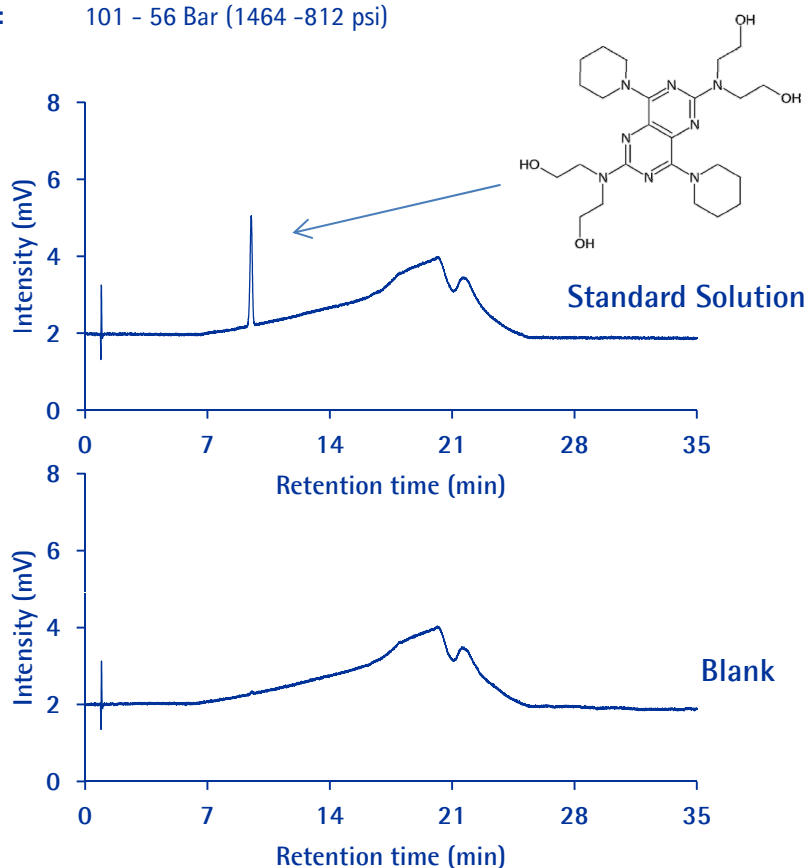
The current EP method specifies the use of a 100x4.0 mm column with 5  $\mu$ m RP-18 stationary phase, but we used a 100x4.6 mm column instead (allowed change). Due to the large column tube volume we added another six minutes for column re-equilibration which explains why total method run-time is six minutes longer.

The following pages illustrate that the acceptance criteria are being met and it is possible to use a 100x4.6 mm Purospher® STAR RP-18 endcapped (5  $\mu$ m) column to comply with the given requirement.

# Dipyridamole and Related Substances (EP)

## Purospher® STAR RP-18 endcapped

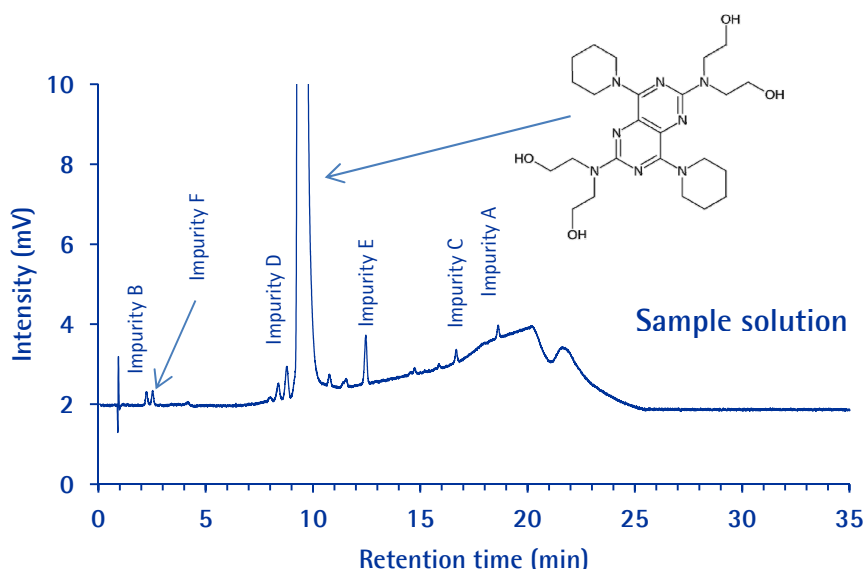
**Column:** Purospher® STAR RP-18 endcapped (5µm) Hibar® RT 100x4.6 mm  
**Injection:** 5 µL  
**Detection:** UV 295 nm  
**Cell:** 10 µL  
**Flow Rate:** 1.2 mL/min  
**Mobile Phase:** A: dissolve 1.0 g of potassium dihydrogen phosphate R in 900 mL of to water adjust to pH 7.0 with 0.5 M sodium hydroxide and dilute 1000 mL with water.  
 B: Methanol  
**Gradient:** See table  
**Temperature:** 45°C, Sample cooler at 10°C  
**Diluent:** Methanol  
**Sample Solution:** Dissolve 0.100 g of the substance to be examined in methanol and dilute to 50 mL with the same.  
**Reference Solution:** Dilute 1.0 mL of the test solution to 100.0 mL with methanol.  
 Dilute 1.0 mL of this solution to 10.0 mL with methanol  
**Pressure Drop:** 101 – 56 Bar (1464 –812 psi)



Time (min)	A (%)	B (%)
0.0	40	60
5.0	40	60
19.0	5	95
24.0	40	60
35.0	40	60

# Dipyridamole and Related Substances (EP)

## Purospher® STAR RP-18 endcapped



### Chromatographic Data :

No.	Compound	Retention Time (min)	Resolution	Observed RRT	RRT per EP
1	Impurity B	2.2		0.23	About 0.2
2	Impurity F	2.5		0.26	About 0.3
3	Impurity D	8.8		0.93	About 0.9
4	Dipyridamole	9.5	3.3	1.00	About 1.0
5	Impurity E	12.5		1.31	About 1.3
6	Impurity C	16.7		1.75	About 1.6
7	Impurity A	18.6		1.96	About 2.2

