

1 Cefixime Fine Granules

2 セフィキシム細粒

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4 Cefixime Fine Granules contain not less than
5 90.0% and not more than 105.0% of the labeled po-
6 tency of cefixime ($C_{16}H_{15}N_5O_7S_2$: 453.45).

7 **Method of preparation** Prepare as directed under Gran-
8 ules, with Cefixime Hydrate.

9 **Identification** To a quantity of powdered Cefixime Fine
10 Granules, equivalent to 2 mg (potency) of Cefixime Hy-
11 drate, add 150 mL of 0.1 mol/L phosphate buffer solution
12 (pH 7.0), and shake. If it is necessary, filter or centrifuge.
13 Determine the absorption spectrum of this solution as di-
14 rected under Ultraviolet-visible Spectrophotometry <2.24>:
15 it exhibits maximum between 286 nm and 290 nm.

16 **Purity** Related substances—To a quantity of powdered
17 Cefixime Fine Granules, equivalent to 0.1 g (potency) of
18 Cefixime Hydrate, add 100 mL of 0.1 mol/L phosphate
19 buffer solution (pH 7.0), shake, filter through a membrane
20 filter with a pore size not exceeding 0.45 μm , and use the
21 filtrate as the sample solution. Perform the test with 10 μL
22 of the sample solution as directed under Liquid Chroma-
23 tography <2.01> according to the following conditions. De-
24 termine each peak area by the automatic integration method,
25 and calculate their amounts by the area percentage method:
26 the amount of the peak other than cefixime is not more than
27 1.0%, and the total amount of the peaks other than cefixime
28 is not more than 2.5%.

29 *Operating conditions*—

30 Detector, column, column temperature, mobile phase
31 and flow rate: Proceed as directed in the operating
32 conditions in the Assay under Cefixime Hydrate.

33 Time span of measurement: Proceed as directed in the
34 operating conditions in the Purity under Cefixime Hydrate.

35 *System suitability*—

36 Test for required detectability: To 1 mL of the sample
37 solution add 0.1 mol/L phosphate buffer solution (pH 7.0)
38 to make 100 mL, and use this solution as the solution for
39 system suitability test. Pipet 1 mL of the solution for system
40 suitability test, and add 0.1 mol/L phosphate buffer solution
41 (pH 7.0) to make exactly 10 mL. Confirm that the peak area
42 of cefixime obtained with 10 μL of this solution is
43 equivalent to 7 to 13% of that with 10 μL of the solution
44 for system suitability test.

45 System performance: When the procedure is run with 10
46 μL of the solution for system suitability test under the
47 above operating conditions, the number of theoretical
48 plates and the symmetry factor of the peak of cefixime are
49 not less than 4000 and not more than 2.0, respectively.

50 System repeatability: When the test is repeated 6 times
51 with 10 μL of the solution for system suitability test under
52 the above operating conditions, the relative standard
53 deviation of the peak area of cefixime is not more than
54 2.0%.

55 **Water** <2.48> Not more than 3.0% (1 g, volumetric titra-
56 tion, direct titration. Use a mixture of formamide for water
57 determination and methanol for water determination (2:1)
58 instead of methanol for water determination).

59 **Uniformity of dosage units** <6.02> Perform the test ac-
60 cording to the following method: Cefixime Fine Granules
61 in single-dose packages meet the requirement of the Con-
62 tent uniformity test.

63 To the total content of 1 package of Cefixime Fine Gran-
64 ules add 7V/10 mL of 0.1 mol/L phosphate buffer solution
65 (pH 7.0), shake, add 0.1 mol/L phosphate buffer solution
66 (pH 7.0) to make exactly V mL so that each mL contains
67 about 1 mg (potency) of Cefixime Hydrate. Centrifuge this
68 solution, pipet 10 mL of the supernatant liquid, add 0.1
69 mol/L phosphate buffer solution (pH 7.0) to make exactly
70 50 mL, and use this solution as the sample solution. Sepa-
71 rately, weigh accurately an amount of Cefixime RS, equiv-
72 alent to about 20 mg (potency), dissolve in 0.1 mol/L phos-
73 phate buffer solution (pH 7.0) to make exactly 100 mL, and
74 use this solution as the standard solution. Then proceed as
75 directed in the Assay under Cefixime Hydrate.

$$76 \quad \text{Amount [mg (potency)] of cefixime } (C_{16}H_{15}N_5O_7S_2) \\ 77 \quad = M_S \times A_T / A_S \times V / 20$$

78 M_S : Amount [mg (potency)] of Cefixime RS taken

79 **Dissolution** <6.10> When the test is performed at 50 rev-
80 olutions per minute according to the Paddle method, using
81 900 mL of 2nd fluid for dissolution test as the dissolution
82 medium, the dissolution rates in 30 minutes of Cefixime
83 Fine Granules is not less than 75%.

84 Start the test with an accurately weighed amount of
85 Cefixime Fine Granules, equivalent to about 0.1 g (po-
86 tency) of Cefixime Hydrate, withdraw not less than 20 mL
87 of the medium at the specified minute after starting the test,
88 and filter through a membrane filter with a pore size not
89 exceeding 0.45 μm . Discard the first 10 mL or more of the
90 filtrate, and use the subsequent filtrate as the sample solu-
91 tion. Separately, weigh accurately an amount of Cefixime
92 RS, equivalent to about 28 mg (potency), and dissolve in
93 the dissolution medium to make exactly 50 mL. Pipet 4 mL
94 of this solution, add the dissolution medium to make ex-
95 actly 20 mL, and use this solution as the standard solution.
96 Perform the test with exactly 20 μL each of the sample so-
97 lution and standard solution as directed under Liquid Chro-
98 matography <2.01> according to the following conditions,

99 and determine the peak areas, A_T and A_S , of cefixime in
100 each solution.

101 Dissolution rate (%) with respect to the labeled amount of
102 cefixime ($C_{16}H_{15}N_5O_7S_2$)

$$103 = M_S / M_T \times A_T / A_S \times 1 / C \times 360$$

104 M_S : Amount [mg (potency)] of Cefixime RS taken

105 M_T : Amount (g) of Cefixime Fine Granules taken

106 C : Labeled amount [mg (potency)] of cefixime
107 ($C_{16}H_{15}N_5O_7S_2$) in 1 g

108 *Operating conditions*—

109 Proceed as directed in the operating conditions in the
110 Assay under Cefixime Hydrate.

111 *System suitability*—

112 System performance: When the procedure is run with 20
113 μ L of the standard solution under the above conditions, the
114 number of theoretical plates and the symmetry factor of the
115 peak of cefixime are not less than 4000 and not more than
116 2.0, respectively.

117 System repeatability: When the test is repeated 6 times
118 with 20 μ L of the standard solution under the above
119 operating conditions, the relative standard deviation of the
120 peak area of cefixime is not more than 2.0%.

121 **Assay** Weigh accurately an amount of powdered Cefix-
122 ime Fine Granules, equivalent to about 0.1 g (potency) of
123 Cefixime Hydrate, add 70 mL of 0.1 mol/L phosphate
124 buffer solution (pH 7.0), shake, and add 0.1 mol/L phos-
125 phate buffer solution (pH 7.0) to make exactly 100 mL.
126 Centrifuge this solution, pipet 10 mL of the supernatant liq-
127 uid, add 0.1 mol/L phosphate buffer solution (pH 7.0) to
128 make exactly 50 mL, and use this solution as the sample
129 solution. Separately, weigh accurately an amount of Cefix-
130 ime RS, equivalent to about 20 mg (potency), dissolve in
131 0.1 mol/L phosphate buffer solution (pH 7.0) to make ex-
132 actly 100 mL, and use this solution as the standard solution.
133 Then, proceed as directed in the Assay under Cefixime Hy-
134 drate.

135 Amount [mg (potency)] of cefixime ($C_{16}H_{15}N_5O_7S_2$)

$$136 = M_S \times A_T / A_S \times 5$$

137 M_S : Amount [mg (potency)] of Cefixime RS taken

138 **Containers and storage** Containers—Tight containers.

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