

1 Bicalutamide Tablets

2 ビカルタミド錠

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4 Bicalutamide Tablets contain not less than 95.0%
5 and not more than 105.0% of the labeled amount of
6 bicalutamide ($C_{18}H_{14}F_4N_2O_4S$: 430.37).

7 **Method of preparation** Prepare as directed under Tablets,
8 with Bicalutamide.

9 **Identification** To a quantity of powdered Bicalutamide
10 Tablets, equivalent to 5 mg of Bicalutamide, add 250 mL of
11 methanol, shake thoroughly, and filter through a membrane
12 filter with a pore size not exceeding 0.45 μm . To 10 mL of
13 the filtrate add methanol to make 20 mL. Determine the
14 absorption spectrum of the solution as directed under Ultra-
15 violet-visible Spectrophotometry <2.24>: it exhibits a max-
16 imum between 269 nm and 273 nm.

17 **Uniformity of dosage units** <6.02> Perform the Mass
18 variation test, or the Content uniformity test according to
19 the following method: it meets the requirement.

20 To 1 tablet of Bicalutamide Tablets add 10 mL of water,
21 shake thoroughly until the tablet is disintegrated. Then, add
22 80 mL of tetrahydrofuran, sonicate, add tetrahydrofuran to
23 make exactly 100 mL, and filter through a membrane filter
24 with a pore size 0.45 μm . Discard 1 mL of the first filtrate,
25 pipet V mL of the subsequent filtrate, add a solution of so-
26 dium lauryl sulfate (3 in 200) to make exactly V' mL so that
27 each mL contains about 8 μg of bicalutamide
28 ($C_{18}H_{14}F_4N_2O_4S$), and use this solution as the sample solu-
29 tion. Separately, weigh accurately about 16 mg of Bicalu-
30 tamide RS (separately determine the loss on drying <2.41>
31 in the same conditions as Bicalutamide), dissolve in 2 mL
32 of tetrahydrofuran, and add a solution of sodium lauryl sul-
33 fate (3 in 200) to make exactly 200 mL. Pipet 5 mL of this
34 solution, add a solution of sodium lauryl sulfate (3 in 200)
35 to make exactly 50 mL, and use this solution as the standard
36 solution. Determine the absorbances, A_T and A_S , of the sam-
37 ple solution and standard solution at 270 nm as directed
38 under Ultraviolet-visible Spectrophotometry <2.24>.

39 Amount (mg) of bicalutamide ($C_{18}H_{14}F_4N_2O_4S$)
40 $=M_S \times A_T/A_S \times V'/V \times 1/20$

41 M_S : Amount (mg) of Bicalutamide RS taken, calculated
42 on the dried basis

43 **Dissolution** <6.10> When the test is performed at 50 rev-
44 olutions per minute according to the Paddle method, using
45 1000 mL of a solution of sodium lauryl sulfate (3 in 200) as
46 the dissolution medium, the dissolution rate in 45 minutes
47 of Bicalutamide Tablets is not less than 80%.

48 Start the test with 1 tablet of Bicalutamide Tablets, with-
49 draw not less than 10 mL of the medium at the specified
50 minute after starting the test, and filter through a membrane
51 filter with a pore size not exceeding 0.45 μm . Discard not
52 less than 1 mL of the first filtrate, pipet V mL of the subse-
53 quent filtrate, add the dissolution medium to make exactly
54 V' mL so that each mL contains about 8 μg of bicalutamide
55 ($C_{18}H_{14}F_4N_2O_4S$), and use this solution as the sample solu-
56 tion. Separately, weigh accurately about 8 mg of Bicalu-
57 tamide RS (separately determine the loss on drying <2.41>
58 in the same conditions as Bicalutamide), dissolve in 2 mL
59 of tetrahydrofuran, and add the dissolution medium to make
60 exactly 100 mL. Pipet 5 mL of this solution, add the disso-
61 lution medium to make exactly 50 mL, and use this solution
62 as the standard solution. Determine the absorbances, A_T and
63 A_S , of the sample solution and standard solution at 270 nm
64 as directed under Ultraviolet-visible Spectrophotometry
65 <2.24>.

66 Dissolution rate (%) with respect to the labeled amount of
67 bicalutamide ($C_{18}H_{14}F_4N_2O_4S$)
68 $=M_S \times A_T/A_S \times V'/V \times 1/C \times 100$

69 M_S : Amount (mg) of Bicalutamide RS taken, calculated
70 on the dried basis

71 C : Labeled amount (mg) of bicalutamide
72 ($C_{18}H_{14}F_4N_2O_4S$) in 1 tablet

73 **Assay** Weigh accurately the mass of not less than 20 tab-
74 lets of Bicalutamide Tablets, and powder. Weigh accurately
75 a portion of the powder, equivalent to about 50 mg of bi-
76 calutamide ($C_{18}H_{14}F_4N_2O_4S$), add 50 mL of tetrahydrofuran,
77 sonicate, and add tetrahydrofuran to make exactly 100 mL.
78 Filter this solution through a membrane filter with a pore
79 size not exceeding 0.45 μm . Discard 1 mL of the first fil-
80 trate, pipet 4 mL of the subsequent filtrate, add exactly 5
81 mL of the internal standard solution, then add the mobile
82 phase to make 50 mL, and use this solution as the sample
83 solution. Separately, weigh accurately about 25 mg of Bi-
84 calutamide RS (separately determine the loss on drying
85 <2.41> in the same conditions as Bicalutamide), dissolve in
86 tetrahydrofuran to make exactly 50 mL. Pipet 4 mL of this
87 solution, add exactly 5 mL of the internal standard solution,
88 then add the mobile phase to make 50 mL, and use this so-
89 lution as the standard solution. Perform the test with 10 μL
90 each of the sample solution and standard solution as di-
91 rected under Liquid Chromatography <2.01> according to
92 the following conditions, and calculate the ratios, Q_T and Q_S ,
93 of the peak area of bicalutamide to that of the internal
94 standard.

95 Amount (mg) of bicalutamide ($C_{18}H_{14}F_4N_2O_4S$)
96 $=M_S \times Q_T/Q_S \times 2$

97 M_S : Amount (mg) of Bicalutamide RS taken, calculated
98 on the dried basis

99 *Internal standard solution*—A solution of propyl parahy-
100 droxybenzoate in a mixture of water, tetrahydrofuran and
101 acetonitrile (13:4:3) (1 in 3500).

102 *Operating conditions* —

103 Detector: An ultraviolet absorption photometer (wave-
104 length: 270 nm).

105 Column: A stainless steel column 4.6 mm in inside diam-
106 eter and 12.5 cm in length, packed with octadecylsilanized
107 silica gel for liquid chromatography (3 μm in particle diam-
108 eter).

109 Column temperature: A constant temperature of about
110 50°C.

111 Mobile phase: A mixture of water, tetrahydrofuran and
112 acetonitrile (13:4:3).

113 Flow rate: Adjust so that the retention time of bicalutam-
114 ide is about 7 minutes.

115 *System suitability* —

116 System performance: When the procedure is run with 10
117 μL of the standard solution under the above operating con-
118 ditions, the internal standard and bicalutamide are eluted in
119 this order with the resolution between these peaks being not
120 less than 7.

121 System repeatability: When the test is repeated 6 times
122 with 10 μL of the standard solution under the above operat-
123 ing conditions, the relative standard deviation of the ratio of
124 the peak area of bicalutamide to that of the internal standard
125 is not more than 1.0%.

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