

1 **PACKAGE INSERT**

2 **TARCEVA™**

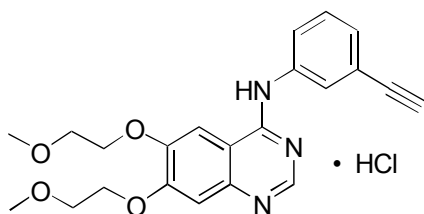
3 **(erlotinib)**

4 **Tablets**

RX Only

5 **DESCRIPTION**

6 TARCEVA (erlotinib) is a Human Epidermal Growth Factor Receptor Type  
7 1/Epidermal Growth Factor Receptor (HER1/EGFR) tyrosine kinase inhibitor.  
8 Erlotinib is a quinazolinamine with the chemical name N-(3-ethynylphenyl)-6,7-  
9 bis(2-methoxyethoxy)-4-quinazolinamine. TARCEVA contains erlotinib as the  
10 hydrochloride salt which has the following structural formula:



12 Erlotinib hydrochloride has the molecular formula  $C_{22}H_{23}N_3O_4 \cdot HCl$  and a molecular  
13 weight of 429.90. The molecule has a  $pK_a$  of 5.42 at 25°C. Erlotinib hydrochloride is  
14 very slightly soluble in water, slightly soluble in methanol and practically insoluble  
15 in acetonitrile, acetone, ethyl acetate and hexane.

16 Aqueous solubility of erlotinib hydrochloride is dependent on pH with increased  
17 solubility at a pH of less than 5 due to protonation of the secondary amine. Over the  
18 pH range of 1.4 to 9.6, maximal solubility of approximately 0.4 mg/mL occurs at a  
19 pH of approximately 2.

20 TARCEVA tablets are available in three dosage strengths containing erlotinib  
21 hydrochloride (27.3 mg, 109.3 mg and 163.9 mg) equivalent to 25 mg, 100 mg and  
22 150 mg erlotinib and the following inactive ingredients: lactose monohydrate,  
23 hypromellose, hydroxypropyl cellulose, magnesium stearate, microcrystalline  
24 cellulose, sodium starch glycolate, sodium lauryl sulfate and titanium dioxide. The  
25 tablets also contain trace amounts of color additives, including FD&C Yellow #6 (25  
26 mg only) for product identification.

## 27 **CLINICAL PHARMACOLOGY**

### 28 **Mechanism of Action and Pharmacodynamics**

29 The mechanism of clinical antitumor action of erlotinib is not fully characterized.  
30 Erlotinib inhibits the intracellular phosphorylation of tyrosine kinase associated with  
31 the epidermal growth factor receptor (EGFR). Specificity of inhibition with regard to  
32 other tyrosine kinase receptors has not been fully characterized. EGFR is expressed  
33 on the cell surface of normal cells and cancer cells.

### 34 **Pharmacokinetics**

35 Erlotinib is about 60% absorbed after oral administration and its bioavailability is  
36 substantially increased by food to almost 100%. Its half-life is about 36 hours and it  
37 is cleared predominantly by CYP3A4 metabolism.

### 38 **Absorption and Distribution**

39 Bioavailability of erlotinib following a 150 mg oral dose of TARCEVA is about 60%  
40 and peak plasma levels occur 4 hrs after dosing. Food increases bioavailability  
41 substantially, to almost 100%.

42 Following absorption, erlotinib is approximately 93% protein bound to albumin and  
43 alpha-1 acid glycoprotein (AAG). Erlotinib has an apparent volume of distribution of  
44 232 liters.

### 45 **Metabolism and Elimination**

46 *In vitro* assays of cytochrome P450 metabolism showed that erlotinib is metabolized  
47 primarily by CYP3A4 and to a lesser extent by CYP1A2, and the extrahepatic  
48 isoform CYP1A1. Following a 100 mg oral dose, 91% of the dose was recovered:  
49 83% in feces (1% of the dose as intact parent) and 8% in urine (0.3% of the dose as  
50 intact parent).

51 A population pharmacokinetic analysis in 591 patients receiving single-agent  
52 TARCEVA showed a median half-life of 36.2 hours. Time to reach steady state  
53 plasma concentration would therefore be 7 - 8 days. No significant relationships of  
54 clearance to patient age, body weight or gender were observed. Smokers had a 24%  
55 higher rate of erlotinib clearance.

## 56 **Special Populations**

### 57 *Patients with Hepatic Impairment*

58 Erlotinib is cleared predominantly by the liver. No data are currently available  
59 regarding the influence of hepatic dysfunction and/or hepatic metastases on the  
60 pharmacokinetics of erlotinib (see **PRECAUTIONS - Patients with Hepatic**  
61 **Impairment, ADVERSE REACTIONS and DOSAGE AND**  
62 **ADMINISTRATION - Dose Modifications** sections).

### 63 *Patients with Renal Impairment*

64 Less than 9% of a single dose is excreted in the urine. No clinical studies have been  
65 conducted in patients with compromised renal function.

## 66 **Interactions**

67 Erlotinib is metabolized predominantly by CYP3A4, and inhibitors of CYP3A4  
68 would be expected to increase exposure. Co-treatment with the potent CYP3A4  
69 inhibitor ketoconazole increased erlotinib AUC by 2/3 (see **PRECAUTIONS -**  
70 **Drug Interactions and DOSAGE AND ADMINISTRATION - Dose**  
71 **Modifications** sections).

72 Pre- or co-treatment with the CYP3A4 inducer rifampicin increased erlotinib  
73 clearance by 3-fold and reduced AUC by 2/3 (see **PRECAUTIONS - Drug**  
74 **Interactions and DOSAGE AND ADMINISTRATION - Dose Modifications**  
75 sections).

## 76 **CLINICAL STUDIES**

### 77 **TARCEVA as Monotherapy in Non-Small Cell Lung Cancer** 78 **(NSCLC)**

79 The efficacy and safety of TARCEVA was assessed in a randomized, double blind,  
80 placebo-controlled trial in 731 patients with locally advanced or metastatic NSCLC  
81 after failure of at least one chemotherapy regimen. Patients were randomized 2:1 to  
82 receive TARCEVA 150 mg or placebo (488 Tarceva, 243 placebo) orally once daily  
83 until disease progression or unacceptable toxicity. Study end points included overall  
84 survival, response rate, and progression-free survival (PFS). Duration of response  
85 was also examined. The primary endpoint was survival. The study was conducted in

86 17 countries. About 1/3 of the patients (238) had EGFR expression status  
87 characterized.

88 Table 1 summarizes the demographic and disease characteristics of the study  
89 population. Demographic characteristics were well balanced between the two  
90 treatment groups. About two-thirds of the patients were male. Approximately one-  
91 fourth had a baseline ECOG performance status (PS) of 2, and 9% had a baseline  
92 ECOG PS of 3. Fifty percent of the patients had received only one prior regimen of  
93 chemotherapy. About three quarters of these patients were known to have smoked at  
94 some time.

95 **Table 1: Demographic and Disease Characteristics**

96

	<b>TARCEVA (N = 488)</b>		<b>Placebo (N = 243)</b>	
<b>Characteristics</b>	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>
Gender				
Female	173	(35)	83	(34)
Male	315	(65)	160	(66)
Age (Years)				
<65	299	(61)	153	(63)
≥65	189	(39)	90	(37)
Race				
Caucasian	379	(78)	188	(77)
Black	18	(4)	12	(5)
Asian	63	(13)	28	(12)
Other	28	(6)	15	(6)
ECOG Performance Status at Baseline*				
0	64	(13)	34	(14)
1	256	(52)	132	(54)
2	126	(26)	56	(23)
3	42	(9)	21	(9)
Weight Loss in Previous 6 Months				
< 5%	320	(66)	166	(68)
5 – 10%	96	(20)	36	(15)

	<b>TARCEVA (N = 488)</b>		<b>Placebo (N = 243)</b>	
<b>Characteristics</b>	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>
> 10%	52	(11)	29	(12)
Unknown	20	(4)	12	(5)
<b>Smoking History</b>				
Never Smoked	104	(21)	42	(17)
Current or Ex-smoker	358	(73)	187	(77)
Unknown	26	(5)	14	(6)
<b>Histological Classification</b>				
Adenocarcinoma	246	(50)	119	(49)
Squamous	144	(30)	78	(32)
Undifferentiated Large Cell	41	(8)	23	(9)
Mixed Non-Small Cell	11	(2)	2	(<1)
Other	46	(9)	21	(9)
<b>Time from Initial Diagnosis to Randomization (Months)</b>				
<6	63	(13)	34	(14)
6 – 12	157	(32)	85	(35)
>12	268	(55)	124	(51)
<b>Best Response to Prior Therapy at Baseline*</b>				
CR/PR	196	(40)	96	(40)
PD	101	(21)	51	(21)
SD	191	(39)	96	(40)
<b>Number of Prior Regimens at Baseline*</b>				
1	243	(50)	121	(50)
2	238	(49)	119	(49)
3	7	(1)	3	(1)
<b>Exposure to Prior Platinum at Baseline*</b>				
Yes	454	(93)	224	(92)
No	34	(7)	19	(8)

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98  
99  
100

\* Stratification factor as documented at baseline; distribution differs slightly from values reported at time of randomization.

101 The results of the study are shown in Table 2.

102 **Table 2: Efficacy Results**

	<b>Tarceva</b>	<b>Placebo</b>	<b>Hazard Ratio (1)</b>	<b>95% CI</b>	<b>p-value</b>
Survival	Median 6.7 mo	Median 4.7 mo	0.73	0.61 – 0.86	<0.001 (2)
1-year Survival	31.2%	21.5%			
Progression-Free Survival	Median 9.9 wk	Median 7.9 wk	0.59	0.50 – 0.70	<0.001 (2)
Tumor Response (CR+PR)	8.9%	0.9%			<0.001 (3)
Response Duration	Median 34.3 wk	Median 15.9 wk			

103

104

(1) Cox regression model with the following covariates: ECOG performance status, number of prior regimens, prior platinum, best response to prior chemotherapy.

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(2) Two-sided Log-Rank test stratified by ECOG performance status, number of prior regimens, prior platinum, best response to prior chemotherapy.

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(3) Two-sided Fisher's exact test

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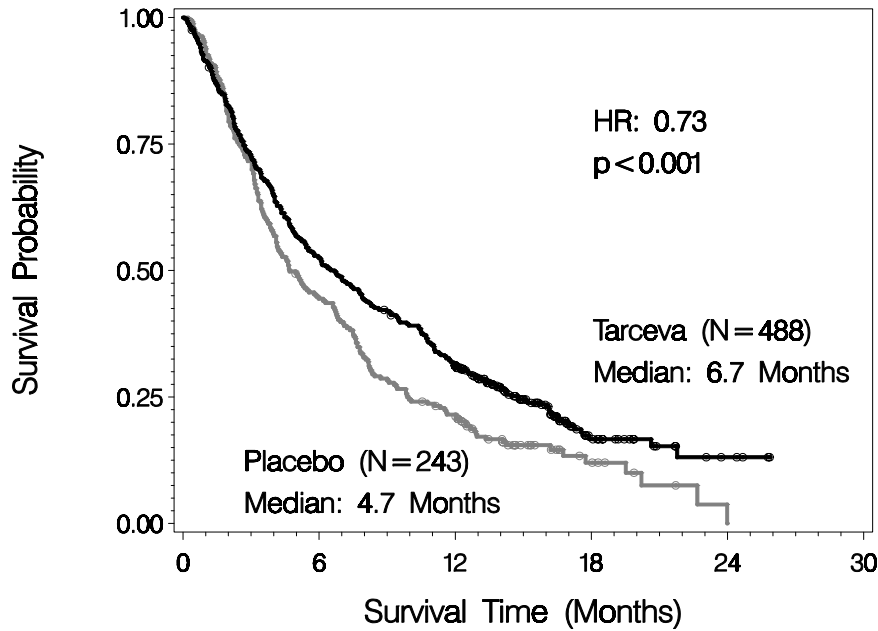
Survival was evaluated in the intent-to-treat population. Figure 1 depicts the Kaplan-Meier curves for overall survival. The primary survival and PFS analyses were two-sided Log-Rank tests stratified by ECOG performance status, number of prior regimens, prior platinum, best response to prior chemotherapy.

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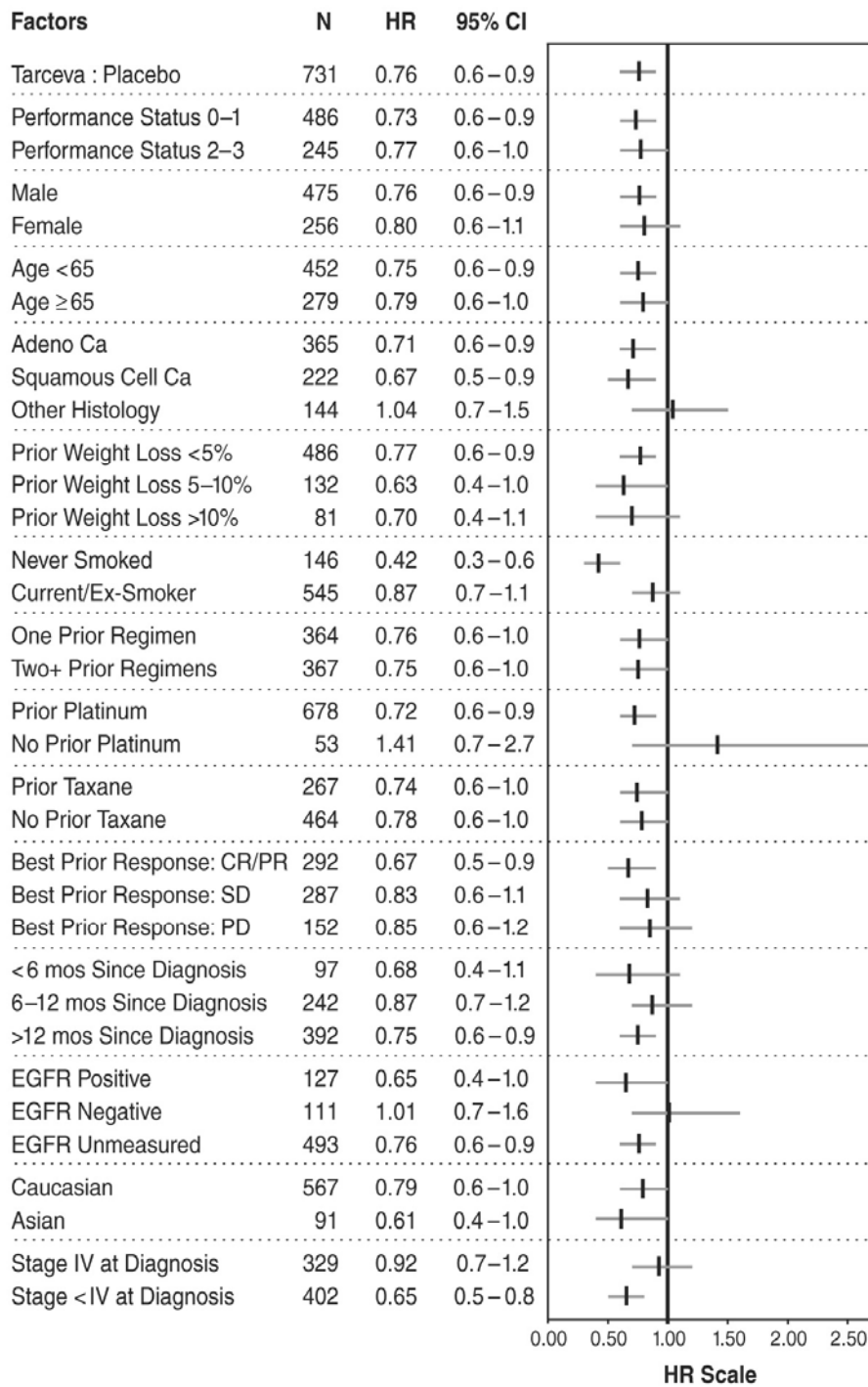
Figure 1: Kaplan–Meier Curve for Overall Survival of Patients by Treatment Group



115                   **Note:** HR is from Cox regression model with the following  
116                   covariates: ECOG performance status, number of prior regimens,  
117                   prior platinum, best response to prior chemotherapy. P-value is from  
118                   two-sided Log-Rank test stratified by ECOG performance status,  
119                   number of prior regimens, prior platinum, best response to prior  
120                   chemotherapy.

121                   A series of subsets of patients were examined in exploratory univariate analyses. The  
122                   results of these analyses are shown in Figure 2. The effect of TARCEVA on survival  
123                   was similar across most subsets. An apparently larger effect, however, was observed  
124                   in two subsets: patients with EGFR positive tumors (HR = 0.65) and patients who  
125                   never smoked (HR = 0.42). These subsets are considered further below.

126 **Figure 2: Survival Hazard Ratio (HR) (Tarceva : Placebo) in Subgroups**  
 127 **According to Pretreatment Characteristics**



128

129 **Note:** Depicted are the univariate hazard ratio (HR) for death in the TARCEVA  
 130 patients relative to the placebo patients, the 95% confidence interval (CI) for the



131 HR, and the sample size (N) in each subgroup. The hash mark on the horizontal bar  
132 represents the HR, and the length of the horizontal bar represents the 95%  
133 confidence interval. A hash mark to the left of the vertical line corresponds to a HR  
134 that is less than 1.00, which indicates that survival is better in the TARCEVA arm  
135 compared with the placebo arm in that subgroup.

136

### 137 **Relation of Results to EGFR Protein Expression Status (as** 138 **Determined by Immunohistochemistry)**

139 Analysis of the impact of EGFR expression status on the treatment effect on clinical  
140 outcome is limited because EGFR status is known for only 238 study patients (33%).  
141 EGFR status was ascertained for patients who already had tissue samples prior to  
142 study enrollment. However, the survival in the EGFR tested population, and the  
143 effect of TARCEVA were almost identical to that in the entire study population,  
144 suggesting that the tested population was a representative sample. A positive EGFR  
145 expression status was defined as having at least 10% of cells staining for EGFR in  
146 contrast to the 1% cut-off specified in the DAKO EGFR pharmDx™ kit instructions.  
147 The use of the pharmDx kit has not been validated for use in non-small cell lung  
148 cancer.

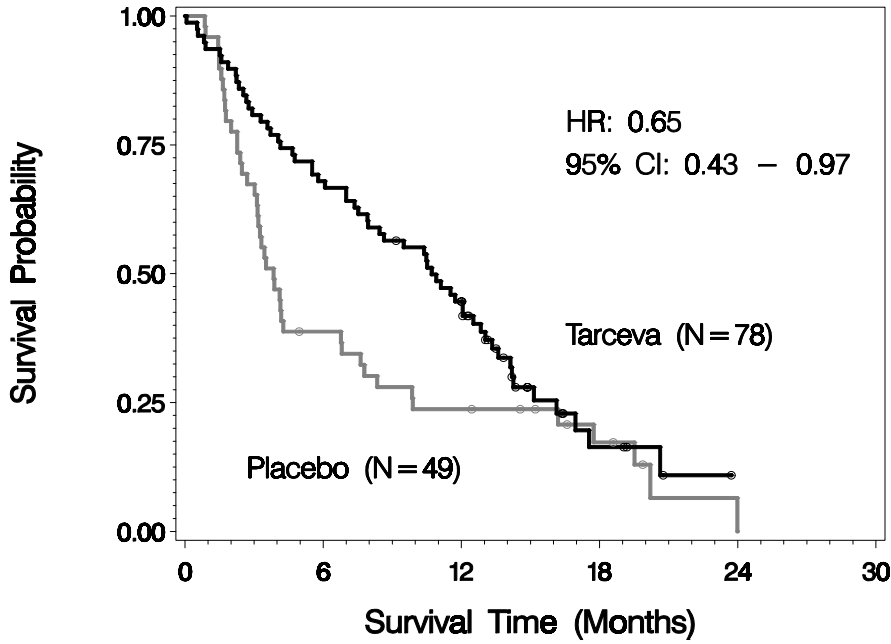
149 TARCEVA prolonged survival in the EGFR positive subgroup (N = 127; HR = 0.65;  
150 95% CI = 0.43 – 0.97) (Figure 3) and the subgroup whose EGFR status was  
151 unmeasured (N = 493; HR = 0.76; 95% CI = 0.61 – 0.93) (Figure 5), but did not  
152 appear to have an effect on survival in the EGFR negative subgroup (N = 111; HR =  
153 1.01; 95% CI = 0.65 – 1.57) (Figure 4). However, the confidence intervals for the  
154 EGFR positive, negative and unmeasured subgroups are wide and overlap, so that a  
155 survival benefit due to TARCEVA in the EGFR negative subgroup cannot be  
156 excluded.

157 For the subgroup of patients who never smoked, EGFR status also appeared to be  
158 predictive of TARCEVA survival benefit. Patients who never smoked and were  
159 EGFR positive had a large TARCEVA survival benefit (N = 30; HR = 0.27; 95% CI  
160 = 0.11 – 0.67). There were too few EGFR negative patients who never smoked to  
161 reach a conclusion.

162 Tumor responses were observed in all EGFR subgroups: 11.6% in the EGFR positive  
163 subgroup, 9.5% in the EGFR unmeasured subgroup and 3.2% in the EGFR negative

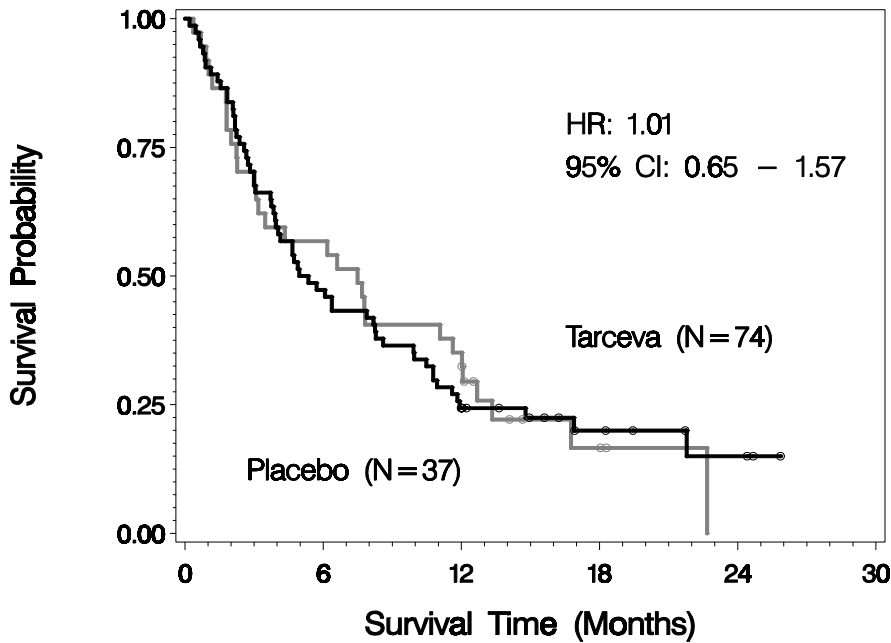
164 subgroup. An improvement in progression free survival was demonstrated in the  
165 EGFR positive subgroup (HR = 0.49; 95% CI = 0.33 – 0.72), the EGFR unmeasured  
166 subgroup (HR = 0.56; 95% CI = 0.46 – 0.70), and less certain in the EGFR negative  
167 subgroup (HR = 0.91; 95% CI = 0.59 – 1.39).

**Figure 3: Survival in EGFR Positive Patients**



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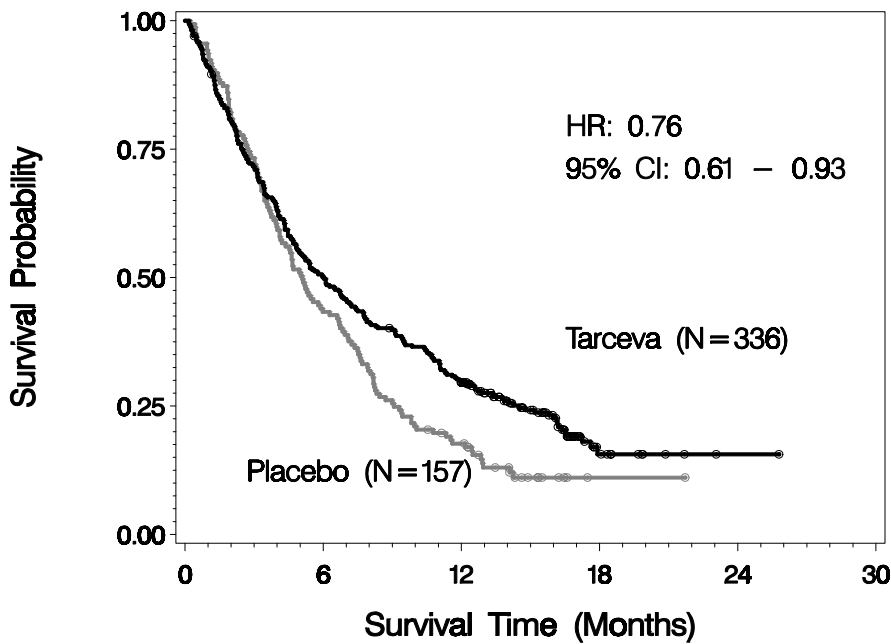
**Figure 4: Survival in EGFR Negative Patients**



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170

Figure 5: Survival in EGFR Unmeasured Patients



171

172 **TARCEVA Administered Concurrently with Chemotherapy in NSCLC**

173 Results from two, multicenter, placebo-controlled, randomized, trials in over 1000  
174 patients conducted in first-line patients with locally advanced or metastatic NSCLC  
175 showed no clinical benefit with the concurrent administration of TARCEVA with  
176 platinum-based chemotherapy [carboplatin and paclitaxel (TARCEVA, N = 526) or  
177 gemcitabine and cisplatin (TARCEVA, N = 580)].

178 **INDICATIONS AND USAGE**

179 TARCEVA is indicated for the treatment of patients with locally advanced or  
180 metastatic non-small cell lung cancer after failure of at least one prior chemotherapy  
181 regimen.

182 Results from two, multicenter, placebo-controlled, randomized, Phase 3 trials  
183 conducted in first-line patients with locally advanced or metastatic NSCLC showed  
184 no clinical benefit with the concurrent administration of TARCEVA with platinum-  
185 based chemotherapy [carboplatin and paclitaxel or gemcitabine and cisplatin] and its  
186 use is not recommended in that setting.

187 **CONTRAINDICATIONS**

188 None.

189 **WARNINGS**

190 **Pulmonary Toxicity**

191 There have been infrequent reports of serious Interstitial Lung Disease (ILD),  
192 including fatalities, in patients receiving TARCEVA for treatment of NSCLC or  
193 other advanced solid tumors. In the randomized single-agent study (see **CLINICAL**  
194 **STUDIES** section), the incidence of ILD (0.8%) was the same in both the placebo  
195 and TARCEVA groups. The overall incidence in TARCEVA-treated patients from  
196 all studies (including uncontrolled studies and studies with concurrent  
197 chemotherapy) was approximately 0.6%. Reported diagnoses in patients suspected of  
198 having ILD included pneumonitis, interstitial pneumonia, interstitial lung disease,  
199 obliterative bronchiolitis, pulmonary fibrosis, Acute Respiratory Distress Syndrome  
200 and lung infiltration. Symptoms started from 5 days to more than 9 months (median  
201 47 days) after initiating TARCEVA therapy. Most of the cases were associated with  
202 confounding or contributing factors such as concomitant/prior chemotherapy, prior  
203 radiotherapy, pre-existing parenchymal lung disease, metastatic lung disease, or  
204 pulmonary infections.

205 In the event of acute onset of new or progressive, unexplained pulmonary symptoms  
206 such as dyspnea, cough, and fever, TARCEVA therapy should be interrupted  
207 pending diagnostic evaluation. If ILD is diagnosed, TARCEVA should be  
208 discontinued and appropriate treatment instituted as necessary (see **ADVERSE**  
209 **REACTIONS** and **DOSAGE AND ADMINISTRATION - Dose Modifications**  
210 sections).

211 **Pregnancy Category D**

212 Erlotinib has been shown to cause maternal toxicity with associated embryo/fetal  
213 lethality and abortion in rabbits when given at doses that result in plasma drug  
214 concentrations of approximately 3 times those in humans (AUCs at 150 mg daily  
215 dose). When given during the period of organogenesis to achieve plasma drug  
216 concentrations approximately equal to those in humans, based on AUC, there was no  
217 increased incidence of embryo/fetal lethality or abortion in rabbits or rats. However,  
218 female rats treated with 30 mg/m<sup>2</sup>/day or 60 mg/m<sup>2</sup>/day (0.3 or 0.7 times the clinical

219 dose, on a mg/m<sup>2</sup> basis) of erlotinib prior to mating through the first week of  
220 pregnancy had an increase in early resorptions which resulted in a decrease in the  
221 number of live fetuses.

222 No teratogenic effects were observed in rabbits or rats.

223 There are no adequate and well-controlled studies in pregnant women using  
224 TARCEVA. Women of childbearing potential should be advised to avoid pregnancy  
225 while on TARCEVA. Adequate contraceptive methods should be used during  
226 therapy, and for at least 2 weeks after completing therapy. Treatment should only be  
227 continued in pregnant women if the potential benefit to the mother outweighs the risk  
228 to the fetus. If TARCEVA is used during pregnancy, the patient should be apprised  
229 of the potential hazard to the fetus or potential risk for loss of the pregnancy.

## 230 **PRECAUTIONS**

### 231 **Drug Interactions**

232 Co-treatment with the potent CYP3A4 inhibitor ketoconazole increases erlotinib  
233 AUC by 2/3. Caution should be used when administering or taking TARCEVA with  
234 ketoconazole and other strong CYP3A4 inhibitors such as atazanavir,  
235 clarithromycin, indinavir, itraconazole, nefazodone, nelfinavir, ritonavir,  
236 saquinavir, telithromycin, troleandomycin (TAO), and voriconazole (see **DOSAGE**  
237 **AND ADMINISTRATION - Dose Modifications** section).

238 Pre-treatment with the CYP3A4 inducer rifampicin decreased erlotinib AUC by  
239 about 2/3. Alternate treatments lacking CYP3A4 inducing activity should be  
240 considered. If an alternative treatment is unavailable, a TARCEVA dose greater than  
241 150 mg should be considered. If the TARCEVA dose is adjusted upward, the dose  
242 will need to be reduced upon discontinuation of rifampicin or other inducers. Other  
243 CYP3A4 inducers include rifabutin, rifapentin, phenytoin, carbamazepine,  
244 phenobarbital and St. John's Wort (see **DOSAGE AND ADMINISTRATION -**  
245 **Dose Modifications** section).

### 246 **Hepatotoxicity**

247 Asymptomatic increases in liver transaminases have been observed in TARCEVA  
248 treated patients; therefore, periodic liver function testing (transaminases, bilirubin,  
249 and alkaline phosphatase) should be considered. Dose reduction or interruption of

250 TARCEVA should be considered if changes in liver function are severe (see  
251 **ADVERSE REACTIONS** section).

## 252 **Patients with Hepatic Impairment**

253 *In vitro* and *in vivo* evidence suggest that erlotinib is cleared primarily by the liver.  
254 Therefore, erlotinib exposure may be increased in patients with hepatic dysfunction  
255 (see **CLINICAL PHARMACOLOGY - Special Populations - Patients with**  
256 **Hepatic Impairment** and **DOSAGE AND ADMINISTRATION - Dose**  
257 **Modification** sections).

## 258 **Elevated International Normalized Ratio and Potential Bleeding**

259 International Normalized Ratio (INR) elevations, and infrequent reports of bleeding  
260 events including gastrointestinal bleeding have been reported in clinical studies,  
261 some associated with concomitant warfarin administration. Patients taking warfarin  
262 or other coumarin-derivative anticoagulants should be monitored regularly for  
263 changes in prothrombin time or INR (see **ADVERSE REACTIONS** section).

## 264 **Carcinogenesis, Mutagenesis, Impairment of Fertility**

265 Erlotinib has not been tested for carcinogenicity.

266 Erlotinib has been tested for genotoxicity in a series of *in vitro* assays (bacterial  
267 mutation, human lymphocyte chromosome aberration, and mammalian cell  
268 mutation) and an *in vivo* mouse bone marrow micronucleus test and did not cause  
269 genetic damage. Erlotinib did not impair fertility in either male or female rats.

## 270 **Pregnancy**

271 **Pregnancy Category D** (see **WARNINGS** and **PRECAUTIONS - Information**  
272 **for Patients** sections).

## 273 **Nursing Mothers**

274 It is not known whether erlotinib is excreted in human milk. Because many drugs are  
275 excreted in human milk and because the effects of TARCEVA on infants have not  
276 been studied, women should be advised against breast-feeding while receiving  
277 TARCEVA therapy.

278 **Pediatric Use**

279 The safety and effectiveness of TARCEVA in pediatric patients have not been  
280 studied.

281 **Geriatric Use**

282 Of the total number of patients participating in the randomized trial, 62% were less  
283 than 65 years of age, and 38% of patients were aged 65 years or older. The survival  
284 benefit was maintained across both age groups (see **CLINICAL STUDIES** section).  
285 No meaningful differences in safety or pharmacokinetics were observed between  
286 younger and older patients. Therefore, no dosage adjustments are recommended in  
287 elderly patients.

288 **Information for Patients**

289 If the following signs or symptoms occur, patients should seek medical advice  
290 promptly (see **WARNINGS, ADVERSE REACTIONS** and **DOSAGE AND**  
291 **ADMINISTRATION - Dose Modification** sections).

- 292 • Severe or persistent diarrhea, nausea, anorexia, or vomiting  
293 • Onset or worsening of unexplained shortness of breath or cough  
294 • Eye irritation

295 Women of childbearing potential should be advised to avoid becoming pregnant  
296 while taking TARCEVA (see **WARNINGS - Pregnancy Category D** section).

297 **ADVERSE REACTIONS**

298 Safety evaluation of TARCEVA is based on 856 cancer patients who received  
299 TARCEVA as monotherapy and 1228 patients who received TARCEVA  
300 concurrently with chemotherapy. Adverse events, regardless of causality, that  
301 occurred in at least 10% of patients treated with TARCEVA and at least 3% more  
302 often than in the placebo group in the randomized trial are summarized by NCI-CTC  
303 (version 2.0) Grade in Table 3.

304 There have been reports of serious ILD, including fatalities, in patients receiving  
305 TARCEVA for treatment of NSCLC or other advanced solid tumors (see  
306 **WARNINGS - Pulmonary Toxicity**, and **DOSAGE AND ADMINISTRATION -**  
307 **Dose Modifications** sections).

308 The most common adverse reactions in patients receiving TARCEVA were rash and  
 309 diarrhea. Grade 3/4 rash and diarrhea occurred in 9% and 6%, respectively, in  
 310 TARCEVA-treated patients. Rash and diarrhea each resulted in study  
 311 discontinuation in 1% of TARCEVA-treated patients. Six percent and 1% of patients  
 312 needed dose reduction for rash and diarrhea, respectively. The median time to onset  
 313 of rash was 8 days, and the median time to onset of diarrhea was 12 days.

314 **Table 3: Adverse Events Occurring in ≥10% of TARCEVA-treated Patients**  
 315 **(2:1 Randomization of TARCEVA to Placebo)**

NCI CTC Grade MedDRA Preferred Term	TARCEVA N = 485			Placebo N = 242		
	Any Grade	Grade 3	Grade 4	Any Grade	Grade 3	Grade 4
	%	%	%	%	%	%
Rash	75	8	<1	17	0	0
Diarrhea	54	6	<1	18	<1	0
Anorexia	52	8	1	38	5	<1
Fatigue	52	14	4	45	16	4
Dyspnea	41	17	11	35	15	11
Cough	33	4	0	29	2	0
Nausea	33	3	0	24	2	0
Infection	24	4	0	15	2	0
Vomiting	23	2	<1	19	2	0
Stomatitis	17	<1	0	3	0	0
Pruritus	13	<1	0	5	0	0
Dry skin	12	0	0	4	0	0
Conjunctivitis	12	<1	0	2	<1	0
Keratoconjunctivitis sicca	12	0	0	3	0	0
Abdominal pain	11	2	<1	7	1	<1

316 Liver function test abnormalities (including elevated alanine aminotransferase  
 317 (ALT), aspartate aminotransferase (AST) and bilirubin) have been observed. These  
 318 elevations were mainly transient or associated with liver metastases. Grade 2 (>2.5 –  
 319 5.0 x ULN) ALT elevations occurred in 4% and <1% of TARCEVA and placebo  
 320 treated patients, respectively. Grade 3 (> 5.0 – 20.0 x ULN) elevations were not  
 321 observed in TARCEVA-treated patients. Dose reduction or interruption of



322 TARCEVA should be considered if changes in liver function are severe (see  
323 **DOSAGE AND ADMINISTRATION - Dose Modification** section).

324 Infrequent cases of gastrointestinal bleeding have been reported in clinical studies,  
325 some associated with concomitant warfarin administration (see **PRECAUTIONS -**  
326 **Elevated International Normalized Ratio and Potential Bleeding** section) and  
327 some with concomitant NSAID administration.

328 NCI CTC grade 3 conjunctivitis and keratitis have been reported infrequently in  
329 patients receiving TARCEVA therapy. Corneal ulcerations may also occur (see  
330 **PRECAUTIONS - Information for Patients** section).

331 In general, no notable differences in the safety of TARCEVA could be discerned  
332 between females or males and between patients younger or older than the age of 65  
333 years. The safety of TARCEVA appears similar in Caucasian and Asian patients (see  
334 **PRECAUTIONS - Geriatric Use** section).

### 335 **OVERDOSAGE**

336 Single oral doses of TARCEVA up to 1,000 mg in healthy subjects, and up to 1,600  
337 mg in cancer patients have been tolerated. Repeated twice-daily doses of 200 mg in  
338 healthy subjects were poorly tolerated after only a few days of dosing. Based on the  
339 data from these studies, an unacceptable incidence of severe adverse events, such as  
340 diarrhea, rash, and liver transaminase elevation, may occur above the recommended  
341 dose of 150 mg daily. In case of suspected overdose, TARCEVA should be withheld  
342 and symptomatic treatment instituted.

### 343 **DOSAGE AND ADMINISTRATION**

344 The recommended daily dose of TARCEVA is 150 mg taken at least one hour before  
345 or two hours after the ingestion of food. Treatment should continue until disease  
346 progression or unacceptable toxicity occurs. There is no evidence that treatment  
347 beyond progression is beneficial.

### 348 **Dose Modifications**

349 In patients who develop an acute onset of new or progressive pulmonary symptoms,  
350 such as dyspnea, cough or fever, treatment with TARCEVA should be interrupted  
351 pending diagnostic evaluation. If ILD is diagnosed, TARCEVA should be

352 discontinued and appropriate treatment instituted as necessary (see **WARNINGS –**  
353 **Pulmonary Toxicity** section).

354 Diarrhea can usually be managed with loperamide. Patients with severe diarrhea who  
355 are unresponsive to loperamide or who become dehydrated may require dose  
356 reduction or temporary interruption of therapy. Patients with severe skin reactions  
357 may also require dose reduction or temporary interruption of therapy.

358 When dose reduction is necessary, the TARCEVA dose should be reduced in 50 mg  
359 decrements.

360 In patients who are being concomitantly treated with a strong CYP3A4 inhibitor  
361 such as atazanavir, clarithromycin, indinavir, itraconazole, ketoconazole,  
362 nefazodone, nelfinavir, ritonavir, saquinavir, telithromycin, troleandomycin (TAO),  
363 or voriconazole, a dose reduction should be considered should severe adverse  
364 reactions occur.

365 Pre-treatment with the CYP3A4 inducer rifampicin decreased erlotinib AUC by  
366 about 2/3. Alternate treatments lacking CYP3A4 inducing activity should be  
367 considered. If an alternative treatment is unavailable, a TARCEVA dose greater than  
368 150 mg should be considered. If the TARCEVA dose is adjusted upward, the dose  
369 will need to be reduced upon discontinuation of rifampicin or other inducers. Other  
370 CYP3A4 inducers include rifabutin, rifapentin, phenytoin, carbamazepine,  
371 phenobarbital and St. John's Wort. These too should be avoided if possible (see  
372 **PRECAUTIONS - Drug Interactions** section).

373 Erlotinib is eliminated by hepatic metabolism and biliary excretion. Therefore,  
374 caution should be used when administering TARCEVA to patients with hepatic  
375 impairment. Dose reduction or interruption of TARCEVA should be considered  
376 should severe adverse reactions occur (see **CLINICAL PHARMACOLOGY -**  
377 **Special Populations – Patients With Hepatic Impairment, PRECAUTIONS -**  
378 **Patients With Hepatic Impairment, and ADVERSE REACTIONS** sections).

## 379 **HOW SUPPLIED**

380 The 25 mg, 100 mg and 150 mg strengths are supplied as white film-coated tablets  
381 for daily oral administration.

382 TARCEVA™ (erlotinib) Tablets, 25 mg: Round, biconvex face and straight sides,  
383 white film-coated, printed in orange with a “T” and “25” on one side and plain on the  
384 other side. Supplied in bottles of 30 tablets (NDC 50242-062-01).

385 TARCEVA™ (erlotinib) Tablets, 100 mg: Round, biconvex face and straight sides,  
386 white film-coated, printed in gray with “T” and “100” on one side and plain on the  
387 other side. Supplied in bottles of 30 tablets (NDC 50242-063-01).

388 TARCEVA™ (erlotinib) Tablets, 150 mg: Round, biconvex face and straight sides,  
389 white film-coated, printed in maroon with “T” and “150” on one side and plain on  
390 the other side. Supplied in bottles of 30 tablets (NDC 50242-064-01).

391 **STORAGE**

392 Store at 25°C (77°F); excursions permitted to 15° – 30°C (59° – 86°F). See USP  
393 Controlled Room Temperature.

**Manufactured for:**

OSI Pharmaceuticals Inc., Melville, NY 11747

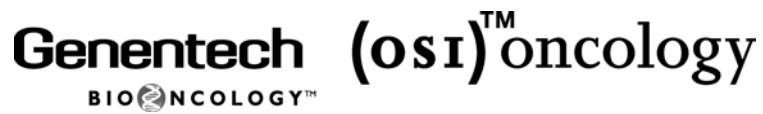
**Manufactured by:**

Schwarz Pharma Manufacturing, Seymour, IN 47274

**Distributed by:**

Genentech Inc., 1 DNA Way, South San Francisco, CA 94080-4990

For further information please call 1-877-TARCEVA (1-877-827-2382).



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