

## FULL PRESCRIBING INFORMATION

These highlights do not include all the information needed to use CAPECITABINE TABLETS safely and effectively. See full prescribing information for CAPECITABINE TABLETS.

**CAPECITABINE TABLETS USP for oral use**  
Initial U.S. Approval: 1998

### WARNING: CAPECITABINE-WARFARIN INTERACTION

See full prescribing information for complete boxed warning.

Patients receiving concomitant capecitabine and oral coumatin-derivative anticoagulants such as warfarin and phenprocoumon should have their anticoagulant response (INR or prothrombin time) monitored frequently in order to adjust the anticoagulant dose accordingly. Altered coagulation parameters and/or bleeding, including deep vein thromboses, have been reported during concomitant use.

- Occurrence: Within several days and up to several months after initiating capecitabine therapy; may also be seen within 1 month after stopping capecitabine.
- Predisposing factors: age ≥60 and diagnosis of cancer

### RECENT MAJOR CHANGES

Warnings and Administration (2.1) 12/2016  
Dosage and Administration (2.2) 12/2016

### INDICATIONS AND USAGE

Capecitabine is a nucleoside metabolic inhibitor with antineoplastic activity indicated for:

- Adjuvant Colon Cancer (1.1) – Patients with Duke's C colon cancer
- Metastatic Colorectal Cancer (1.1) – First-line treatment with fluorouracil therapy alone is preferred
- Metastatic Breast Cancer (1.2) – In combination with docetaxel after failure of prior antihermone-containing therapy

### DOSE AND ADMINISTRATION

- Take capecitabine tablets with water 30 min after meals (2.1)
- Monitor therapy: 1,250 mg/m<sup>2</sup> twice daily for 2 weeks followed by a one week rest period in 3-week cycles (2.2)
- Adjunctive treatment is recommended for a total of 6 months (8 cycles) (2.2)
- In combination with docetaxel, the recommended dose of capecitabine tablets is 1,250 mg/m<sup>2</sup> twice daily for 2 weeks followed by a 7-day rest period, combined with docetaxel at 75 mg/m<sup>2</sup> as a 1-hour IV infusion every 3 weeks (2.2)
- Capecitabine tablets dosage may need to be individualized to optimize patient management (2.3)
- Reduce the dose of capecitabine tablets by 25% in patients with moderate renal impairment (2.4)

### DOSE FORMS AND STRENGTHS

- Tablets: 150 mg and 500 mg (2.1)

### CONTRAINDICATIONS

- Severe Renal Impairment (4.1)
- Hypersensitivity (4.2)

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## FULL PRESCRIBING INFORMATION

### WARNING: CAPECITABINE-WARFARIN INTERACTION

Patients receiving concomitant capecitabine and oral coumatin-derivative anticoagulant therapy should have their anticoagulant response (INR or prothrombin time) monitored frequently in order to adjust the anticoagulant dose accordingly. A clinically important capecitabine-warfarin drug interaction was demonstrated in a clinical pharmacology trial (see Warnings and Precautions (5.1) and Drug Interactions (7.1)). Altered coagulation parameters and/or bleeding, including deep vein thromboses, have been reported in patients taking capecitabine concomitantly with coumatin-derivative anticoagulants such as warfarin and phenprocoumon. Postmarketing reports have shown clinically significant increases in prothrombin time (PT) and INR in patients who were stabilized on anticoagulants at the time capecitabine was introduced. These events occurred within several months after initiating capecitabine therapy and, in a few cases, within 1 month after stopping capecitabine. These events occurred in patients with and without liver impairment. Age greater than 60 and a diagnosis of cancer independently predispose patients to an increased risk of coagopathy.

#### 1. INDICATIONS AND USAGE

##### 1.1 Colorectal Cancer

Capecitabine tablets USP is indicated as a single agent for adjuvant treatment in patients with Duke's C colon cancer who have undergone complete resection of the primary tumor and treatment with fluorouracil therapy alone is preferred. Capecitabine is non-inferior to 5-fluorouracil and leucovorin (S-FU/LV) for disease-free survival (DFS). Physicians should consider results of combination chemotherapy trials, which have shown improved DFS and OS, when prescribing single-agent capecitabine in the adjuvant treatment of Duke's C colon cancer.

Capecitabine tablets USP are indicated as first-line treatment of patients with metastatic colorectal carcinoma when treatment with fluorouracil therapy alone is preferred. Combination chemotherapy has shown a survival benefit compared to S-FU/LV alone. A survival benefit using S-FU/LV has not been demonstrated with capecitabine monotherapy. Use of capecitabine tablets USP in combination with S-FU/LV in combination has not been adequately studied to assess superiority or preservation of the survival advantage.

##### 1.2 Breast Cancer

Capecitabine tablets USP in combination with docetaxel are indicated for the treatment of patients with metastatic breast cancer after failure of prior antihermone-containing therapy.

Capecitabine tablets monotherapy is also indicated for the treatment of patients with metastatic breast cancer resistant to both palliative and an antihermone-containing chemotherapy regimen or resistant to palliative and for whom further antihermone therapy is not indicated (e.g., patients who have received maximum doses of 400 mg of tamoxifen or doxorubicin equivalents). Resistance is defined as progressive disease while on treatment, with or without an initial response, or relapse within 6 months of completing treatment with an antihermone-containing adjuvant regimen.

#### 2. DOSAGE AND ADMINISTRATION

##### 2.1 Important Administration Instructions

Capecitabine tablets should be swallowed whole with water within 30 minutes after a meal. Capecitabine is a cytotoxic drug. Follow applicable special handling and disposal procedures. Capecitabine tablets must be out of reach of children. This should be done by a professional trained in safe handling of cytotoxic drugs using appropriate equipment and safety procedures. Capecitabine dose is calculated according to body surface area.

##### 2.2 Standard Starting Dose

The recommended dose of capecitabine tablets is 1,250 mg/m<sup>2</sup> administered orally twice daily (morning and evening; equivalent to 2,500 mg/m<sup>2</sup> total daily dose) for 2 weeks followed by a 1-week rest period given as a 3-week cycle (see Table 1).

Adjuvant treatment in patients with Duke's C colon cancer is recommended for a total of 6 months (12 cycles). In combination with docetaxel, capecitabine tablets 1,250 mg/m<sup>2</sup> orally twice daily for 2 weeks followed by a 1-week rest period, given as 3-week cycles for a total of 6 cycles (24 weeks).

##### 2.3 Capecitabine Tablets Dose Calculation According to Body Surface Area

Surface Area (m <sup>2</sup> )	Dose Level 1,250 mg/m <sup>2</sup> Twice A Day		Number of Tablets to be Taken at Each Dose (Morning and Evening)	
	Total Daily Dose* (mg)	150 mg	500 mg	
≤ 1.25	3,000	0	3	
1.26 to 1.37	3,300	1	3	
1.38 to 1.51	3,600	2	3	
1.52 to 1.65	4,000	4	3	
1.66 to 1.77	4,300	4	4	
1.78 to 1.91	4,600	2	4	
1.92 to 2.05	5,000	0	5	
2.06 to 2.17	5,300	1	5	
≥ 2.18	5,600	2	5	

\*Total Daily Dose divided by 2 to allow equal morning and evening doses.

##### 2.4 Adjustment of Starting Dose in Special Populations

No adjustment is needed in patients with either metastatic breast or colorectal cancer who received capecitabine monotherapy, the median time to first occurrence of grade 2 or 3 diarrhea was 34 days (range from 1 to 369 days). The median duration of grade 3 or 4 diarrhea was 5 days. In a national Cancer Institute of Canada (NCIC) grade 2 diarrhea is defined as an increase of 4 to 6 stools/day or nocturnal stools; grade 3 diarrhea is an increase of 7 to 10 stools/day or incontinence and malabsorption, and grade 4 diarrhea is an increase of ≥10 stools/day or grossly bloody diarrhea or the need for parenteral support. If grade 2, 3 or 4 diarrhea occurs, administration of capecitabine should be immediately interrupted until the diarrhea resolves or decreases in intensity to grade 1 (see Dosage and Administration (2.3)). Standard anti-diarrheal treatments (e.g., loperamide) are recommended.

##### 2.5 Severe Renal Impairment

Capecitabine is contraindicated in patients with severe renal impairment (creatinine clearance below 30 mL/min [Cockcroft and Gault]) (see Use in Specific Populations (8.7) and Clinical Pharmacology (12.3)).

##### 2.6 Hypersensitivity

Capecitabine is contraindicated in patients with known hypersensitivity to capecitabine or to any of its components. Capecitabine is contraindicated in patients who have a known hypersensitivity to 5-fluorouracil.

#### 5. WARNINGS AND PRECAUTIONS

##### 5.1 Coagopathy

Patients receiving concomitant capecitabine and oral coumatin-derivative anticoagulant therapy should have their anticoagulant response (INR or prothrombin time) monitored closely during therapy and the anticoagulant dose should be adjusted accordingly (see Boxed Warning and Drug Interactions (7.1)).

##### 5.2 Diarrhea

Capecitabine can induce diarrhea, sometimes severe. Patients with severe diarrhea should be carefully monitored and given fluid and electrolyte replacement therapy as needed. In 575 patients with either metastatic breast or colorectal cancer who received capecitabine monotherapy, the median time to first occurrence of grade 2 or 3 diarrhea was 34 days (range from 1 to 369 days). The median duration of grade 3 or 4 diarrhea was 5 days. In a national Cancer Institute of Canada (NCIC) grade 2 diarrhea is defined as an increase of 4 to 6 stools/day or nocturnal stools; grade 3 diarrhea is an increase of 7 to 10 stools/day or incontinence and malabsorption, and grade 4 diarrhea is an increase of ≥10 stools/day or grossly bloody diarrhea or the need for parenteral support. If grade 2, 3 or 4 diarrhea occurs, administration of capecitabine should be immediately interrupted until the diarrhea resolves or decreases in intensity to grade 1 (see Dosage and Administration (2.3)). Standard anti-diarrheal treatments (e.g., loperamide) are recommended.

##### 5.3 Cardiotoxicity

The cardiotoxicity observed with capecitabine includes myocardial infarction/ischemia, angina, dysrhythmias, cardiac arrest, cardiac failure, sudden death, electrocardiographic changes, and cardiomyopathy. These adverse reactions may be more common in patients with a prior history of coronary artery disease.

##### 5.4 Dihydropyrimidine Dehydrogenase Deficiency

Based on postmarketing reports, patients with certain homocystinuria or certain compound heterozygous mutations in the DPD gene that result in complete or near complete absence of DPD activity are at increased risk for acute early-onset of toxicity and severe life-threatening or fatal adverse reactions caused by capecitabine (e.g., mucositis, diarrhea, neutropenia, and neurotoxicity). Patients with partial DPD activity may also have increased risk of severe, life-threatening, or fatal adverse reactions caused by capecitabine.

Concomitantly administered capecitabine-based or capecitabine-containing chemotherapy should be avoided in patients with evidence of acute early-onset or unusually severe toxicity, which may indicate near complete or total absence of DPD activity. No capecitabine should be given to patients with complete absence of DPD activity. There is insufficient data to recommend a specific dose in patients with partial DPD activity.

##### 5.5 Dehydration and Renal Failure

Dehydration has been observed, and may cause acute renal failure which can be fatal. Patients with pre-existing compromised renal function or who are receiving concomitant capecitabine with known nephrotoxic agents are at higher risk. Patients with anorexia, anorexia, nausea, vomiting or diarrhea may rapidly become dehydrated. Monitor patients when capecitabine is administered to prevent and correct dehydration at the onset. If grade 2 (or higher) dehydration occurs, capecitabine treatment should be immediately interrupted and the dehydration corrected. Treatment should not be restarted until the patient is rehydrated and any precipitating causes have been corrected or controlled. Dose modifications should be applied for the precipitating adverse event as necessary (see Dosage and Administration (2.3)).

##### 5.6 Hematologic

Patients with moderate renal impairment at baseline received capecitabine at baseline received capecitabine with subsequent dose adjustments in patients with renal impairment should be carefully monitored for adverse reactions. Prompt interruption of therapy with subsequent dose adjustments is recommended for a patient develops a grade 2 to 4 adverse event as outlined in Table 2 (see Dosage and Administration (2.3)). Use in Specific Populations (8.7) and Drug Interactions (7.1).

##### 5.8 Embryo-Fetal Toxicity

Based on findings from animal reproduction studies and its mechanism of action, capecitabine may cause fetal harm when given to a pregnant woman (see Clinical Pharmacology (12.1)). Limited available data are not sufficient to inform use of capecitabine in pregnant women. In animal reproduction studies, administration of capecitabine to pregnant animals during the period of organogenesis caused embryofetally and teratogenicity in mice and embryofetality in monkeys at 0.2 and 0.6 times the exposure (AUC) in patients receiving the recommended dose respectively (see Use in Specific Populations (8.1)). Appropriate pregnant women of the potential risk to a fetus. Advise females of reproductive potential to use effective contraception during treatment and for 6 months following the last dose of capecitabine (see Use in Specific Populations (8.3)).

##### 5.9 Geriatric Patients

In 875 patients with either metastatic breast or colorectal cancer who received at least one dose of capecitabine 1,250 mg/m<sup>2</sup> twice daily as monotherapy for 2 weeks followed by a 1-week rest period, grade 3 (1.5 × ULN) hyperbilirubinemia occurred in 15.2% (n=133) of patients and grade 4 (>3 × ULN) hyperbilirubinemia occurred in 3.9% (n=34) of patients. In 566 patients with metastatic breast cancer who had hepatic metastases but without hepatic metastases at baseline, grade 3 or 4 hyperbilirubinemia occurred in 22.8% and 12.3%, respectively. Of the 162 patients with grade 3 or 4 hyperbilirubinemia, 18.8% (n=31) also had postbaseline elevations (grades 1 to 4, without elevations at baseline) in alkaline phosphatase and 27.5% (n=46) had postbaseline elevations in transaminases at any time (not necessarily concurrent). The majority of these patients, 64.5% (n=20) and 71.7% (n=33), had liver metastases at baseline. In addition, 57.0% (n=95) and 35.3% (n=55) of the 162 patients had elevations (grades 1 to 4) in both prebaseline and postbaseline in alkaline phosphatase or transaminases, respectively. Only 7.8% (n=12) and 3.0% (n=5) had grade 3 or 4 elevations in alkaline phosphatase or transaminases. In the 566 patients treated with capecitabine as first-line therapy for metastatic colorectal cancer, the incidence of grade 3 or 4 hyperbilirubinemia was similar to the overall clinical trial safety database of capecitabine monotherapy. The median time to onset for grade 3 or 4 hyperbilirubinemia in the colorectal cancer population was 64 days (range from 14 to 100 days) and increased from 49 days at baseline to 53 days during treatment with capecitabine. Of the 195 colorectal cancer patients with grade 3 or 4 hyperbilirubinemia, 49 patients had grade 3 or 4 hyperbilirubinemia at their last measured value, of which 48 had liver metastases at baseline.

In 251 patients with metastatic breast cancer who received a combination of capecitabine and docetaxel, grade 3 (1.5 to 3 × ULN) hyperbilirubinemia occurred in 7% (n=17) and grade 4 (>3 × ULN) hyperbilirubinemia occurred in 2% (n=5). If drug-related grade 3 to 4 elevations in bilirubin occur, administration of capecitabine should be immediately interrupted until the hyperbilirubinemia decreases to ≤3.0 × ULN (see recommended dose modifications under Dosage and Administration (2.3)).

##### 5.9 Hematologic

In 875 patients with either metastatic breast or colorectal cancer who received a dose of 1,250 mg/m<sup>2</sup> administered twice daily as monotherapy for 2 weeks followed by a 1-week rest period, 3.2%, 1.7%, and 2.4% of patients had grade 3 or 4 neutropenia, thrombocytopenia or decreases in hemoglobin, respectively. In 251 patients with metastatic breast cancer who received a dose of capecitabine in combination with docetaxel, 66% had grade 3 or 4 neutropenia, 2.8% had grade 3 or 4 thrombocytopenia, and 6.6% had grade 3 or 4 anemia.

Patients with baseline neutrophil counts of <1.5 × 10<sup>9</sup>/L and/or thrombocyte counts of <100 × 10<sup>9</sup>/L should not be treated with capecitabine. If unsheduled laboratory assessments during treatment cycle show grade 3 or 4 hematologic toxicity, treatment with capecitabine should be interrupted.

##### 5.10 Geriatric Patients

In 875 patients with either metastatic breast or colorectal cancer who received at least one dose of capecitabine 1,250 mg/m<sup>2</sup> twice daily as monotherapy for 2 weeks followed by a 1-week rest period, 3.2%, 1.7%, and 2.4% of patients had grade 3 or 4 neutropenia, thrombocytopenia or decreases in hemoglobin, respectively. In 251 patients with metastatic breast cancer who received a dose of capecitabine in combination with docetaxel, 66% had grade 3 or 4 neutropenia, 2.8% had grade 3 or 4 thrombocytopenia, and 6.6% had grade 3 or 4 anemia.

Patients with baseline neutrophil counts of <1.5 × 10<sup>9</sup>/L and/or thrombocyte counts of <100 × 10<sup>9</sup>/L should not be treated with capecitabine. If unsheduled laboratory assessments during treatment cycle show grade 3 or 4 hematologic toxicity, treatment with capecitabine should be interrupted.

##### 5.11 Hepatic Insufficiency

Patients with mild to moderate hepatic dysfunction due to liver metastases should be carefully monitored when capecitabine is administered. The effect of severe hepatic dysfunction on the disposition of capecitabine is not known (see Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)).

##### 5.12 Combination with Other Drugs

Use of capecitabine in combination with irinotecan has not been adequately studied.

#### 6. ADVERSE REACTIONS

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

##### 6.1 Adjuvant Colon Cancer

Table 1 shows the adverse reactions occurring in ≥5% of patients from one phase 3 trial in patients with Duke's C colon cancer who received at least one dose of study medication and had at least one safety assessment. A total of 950 patients were treated with 1,250 mg/m<sup>2</sup> twice daily as monotherapy administered for 2 weeks followed by a 1-week rest period, and 974 patients were administered S-FU and leucovorin (20 mg/m<sup>2</sup> leucovorin IV followed by 425 mg/m<sup>2</sup> IV bolus S-FU on days 1-5 every 2 weeks). The median duration of treatment was 164 days for capecitabine-treated patients and 145 days for S-FU-treated patients. A total of 112 (11%) and 73 (7%) capecitabine and S-FU/LV-treated patients, respectively, discontinued treatment because of adverse reactions. A total of 18 deaths attributable to all causes occurred either on study or within 28 days of receiving study drug: 8 (0.8%) patients randomized to capecitabine and 10 (1%) randomized to S-FU/LV.

Table 2 shows grade 3 laboratory abnormalities occurring in ≥1% of patients from one phase 3 trial in patients with Duke's C colon cancer who received at least one dose of study medication and had at least one safety assessment.

##### 6.2 Metastatic Colorectal Cancer

Table 3 shows the adverse reactions occurring in ≥5% of patients from pooling the two phase 3 trials in first-line metastatic colorectal cancer. A total of 596 patients with metastatic colorectal cancer were treated with 1,250 mg/m<sup>2</sup> twice daily as monotherapy administered for 2 weeks followed by a 1-week rest period, and 563 patients were administered S-FU and leucovorin in the Mayo regimen (20 mg/m<sup>2</sup> leucovorin IV followed by 425 mg/m<sup>2</sup> IV bolus S-FU on days 1-5 every 2 weeks). In the pooled colorectal cancer population, the median duration of treatment was 159 days for capecitabine-treated patients and 140 days for S-FU/LV-treated patients. A total of 78 (13%) and 63 (11%) capecitabine and S-FU/LV-treated patients, respectively, discontinued treatment because of adverse reactions. A total of 18 deaths attributable to all causes occurred either on study or within 28 days of receiving study drug: 50 (8.4%) patients randomized to capecitabine and 32 (5.4%) randomized to S-FU/LV.

##### 6.3 Breast Cancer

Table 4 shows the adverse reactions occurring in ≥5% of patients from pooling the two phase 3 trials in first-line metastatic breast cancer. A total of 596 patients with metastatic breast cancer were treated with 1,250 mg/m<sup>2</sup> twice daily as monotherapy administered for 2 weeks followed by a 1-week rest period, and 563 patients were administered S-FU and leucovorin in the Mayo regimen (20 mg/m<sup>2</sup> leucovorin IV followed by 425 mg/m<sup>2</sup> IV bolus S-FU on days 1-5 every 2 weeks). In the pooled breast cancer population, the median duration of treatment was 159 days for capecitabine-treated patients and 140 days for S-FU/LV-treated patients. A total of 78 (13%) and 63 (11%) capecitabine and S-FU/LV-treated patients, respectively, discontinued treatment because of adverse reactions. A total of 18 deaths attributable to all causes occurred either on study or within 28 days of receiving study drug: 50 (8.4%) patients randomized to capecitabine and 32 (5.4%) randomized to S-FU/LV.

#### Table 1 Pooled Phase 3 Colorectal Trials: Percent Incidence of Adverse Reactions in ≥5% of Patients

The incidence of grade 3/4 white blood cell abnormalities was 1.3% in the capecitabine arm and 4.9% in the S-FU/LV arm. \*It should be noted that grading was according to NCI CTX Version 1 (May, 1994). In the NCI CTX Version 1, hyperbilirubinemia grade 3 indicates a bilirubin value of 1.5 to 3.0 × upper limit of normal (ULN) range, and grade 4 a value of > 3.0 × ULN. The NCI CTX Version 2 and above define a grade 3 bilirubin value of >3.0 × 10<sup>9</sup> × upper limit of normal (ULN) range, and grade 4 values >10 × ULN.

##### 6.2 Metastatic Colorectal Cancer

Table 3 shows the adverse reactions occurring in ≥5% of patients from pooling the two phase 3 trials in first-line metastatic colorectal cancer. A total of 596 patients with metastatic colorectal cancer were treated with 1,250 mg/m<sup>2</sup> twice daily as monotherapy administered for 2 weeks followed by a 1-week rest period, and 563 patients were administered S-FU and leucovorin in the Mayo regimen (20 mg/m<sup>2</sup> leucovorin IV followed by 425 mg/m<sup>2</sup> IV bolus S-FU on days 1-5 every 2 weeks). In the pooled colorectal cancer population, the median duration of treatment was 159 days for capecitabine-treated patients and 140 days for S-FU/LV-treated patients. A total of 78 (13%) and 63 (11%) capecitabine and S-FU/LV-treated patients, respectively, discontinued treatment because of adverse reactions. A total of 18 deaths attributable to all causes occurred either on study or within 28 days of receiving study drug: 50 (8.4%) patients randomized to capecitabine and 32 (5.4%) randomized to S-FU/LV.

##### 6.3 Breast Cancer

Table 4 shows the adverse reactions occurring in ≥5% of patients from pooling the two phase 3 trials in first-line metastatic breast cancer. A total of 596 patients with metastatic breast cancer were treated with 1,250 mg/m<sup>2</sup> twice daily as monotherapy administered for 2 weeks followed by a 1-week rest period, and 563 patients were administered S-FU and leucovorin in the Mayo regimen (20 mg/m<sup>2</sup> leucovorin IV followed by 425 mg/m<sup>2</sup> IV bolus S-FU on days 1-5 every 2 weeks). In the pooled breast cancer population, the median duration of treatment was 159 days for capecitabine-treated patients and 140 days for S-FU/LV-treated patients. A total of 78 (13%) and 63 (11%) capecitabine and S-FU/LV-treated patients, respectively, discontinued treatment because of adverse reactions. A total of 18 deaths attributable to all causes occurred either on study or within 28 days of receiving study drug: 50 (8.4%) patients randomized to capecitabine and 32 (5.4%) randomized to S-FU/LV.

#### Table 2 Laboratory Abnormalities Occurring in ≥1% of Patients from One Phase 3 Trial in Patients with Duke's C Colon Cancer who Received at Least One Dose of Study Medication and Had at Least One Safety Assessment

Table 2 shows grade 3 laboratory abnormalities occurring in ≥1% of patients from one phase 3 trial in patients with Duke's C colon cancer who received at least one dose of study medication and had at least one safety assessment.

#### Table 3 Pooled Phase 3 Colorectal Trials: Percent Incidence of Adverse Reactions in ≥5% of Patients

The incidence of grade 3/4 white blood cell abnormalities was 1.3% in the capecitabine arm and 4.9% in the S-FU/LV arm. \*It should be noted that grading was according to NCI CTX Version 1 (May, 1994). In the NCI CTX Version 1, hyperbilirubinemia grade 3 indicates a bilirubin value of 1.5 to 3.0 × upper limit of normal (ULN) range, and grade 4 a value of > 3.0 × ULN. The NCI CTX Version 2 and above define a grade 3 bilirubin value of >3.0 × 10<sup>9</sup> × upper limit of normal (ULN) range, and grade 4 values >10 × ULN.

##### 6.2 Metastatic Colorectal Cancer

Table 3 shows the adverse reactions occurring in ≥5% of patients from pooling the two phase 3 trials in first-line metastatic colorectal cancer. A total of 596 patients with metastatic colorectal cancer were treated with 1,250 mg/m<sup>2</sup> twice daily as monotherapy administered for 2 weeks followed by a 1-week rest period, and 563 patients were administered S-FU and leucovorin in the Mayo regimen (20 mg/m

antagonists: anhydrous lactose, croscarmellose sodium, hypromellose, magnesium stearate and microcrystalline cellulose. The peach or light peach film coating contains hydroxypropyl methylcellulose, talc, titanium dioxide, iron oxide red, ferrous ferrous oxide and iron oxide yellow.

**Manufactured by:**  
**MSN Laboratories Private Limited**  
Telangana – 509 216,  
India

**Distributed by:**  
**Novadoz Pharmaceuticals LLC**  
Piscataway, NJ 08854-3714

**Issued on:** July 2018

## Capceitabine in Combination With Docetaxel (Metastatic Breast Cancer)

Adverse Event	Incidence (%)
Gastrointestinal	ileus (0.4%), neutropenic enterocolitis (0.4%), esophageal ulcer (0.4%), hemorrhagic diarrhea (0.8%)
Neurological	ataxia (0.4%), syncope (1.2%), taste loss (0.8%), polyneuropathy (0.4%), migraine (0.4%)
Cardiac	supraventricular tachycardia (0.4%)
Infection	neutropenic sepsis (2.4%), sepsis (0.4%), bronchopneumonia (0.4%)
Blood & Lymphatic	agranulocytosis (0.4%), prothrombin decreased (0.4%)
Vascular	hypotension (1.2%), venous phlebitis and thrombophlebitis (0.4%), deep vein thrombosis (0.8%)
Renal	renal failure (0.4%)
Hepatology	jaundice (0.4%), abnormal liver function tests (0.4%), hepatic failure (0.4%), hepatic coma (0.4%), hepatotoxicity (0.4%)
Immune System	hypersensitivity (1.2%)

## 7. DRUG INTERACTIONS

### 7.1 Drug-Drug Interactions

Altered coagulation parameters and/or bleeding have been reported in patients taking capceitabine concomitantly with coumarin-derivative anticoagulants such as warfarin and phenprocoumon (see **Boxed Warning**). These events occurred within several days and up to several months after initiating capceitabine therapy and, in a few cases, within 1 month after stopping capceitabine. These events occurred in patients with and without liver metastases. In a drug interaction study with single dose warfarin administration, there was a significant increase in the mean AUC of S-warfarin (see **Clinical Pharmacology** (7.2)). The maximum observed INR value increased by 91%. This interaction is probably due to an inhibition of cytochrome P450 C3 by capceitabine and/or its metabolites.

**Phenytoin**  
The level of phenytoin should be carefully monitored in patients taking capceitabine and phenytoin dose may need to be reduced (see **Dosage and Administration** (2.2)). Postmarketing reports indicate that some patients receiving capceitabine and phenytoin had toxicity associated with elevated phenytoin levels. Formal drug-drug interaction studies with phenytoin have not been conducted, but the mechanism of interaction is presumed to be inhibition of the CYP2C9 isoenzyme by capceitabine and/or its metabolites.

**Leucovorin**  
The concentration of 5-Fluorouracil is increased and its toxicity may be enhanced by leucovorin. Deaths from severe enterocolitis, diarrhea, and dehydration have been reported in elderly patients receiving weekly leucovorin and fluorouracil.

**CYP2C3 substrates**  
Other than warfarin, no formal drug-drug interaction studies between capceitabine and other CYP2C3 substrates have been conducted. Care should be exercised when capceitabine is coadministered with CYP2C3 substrates.

### 7.2 Drug-Food Interactions

Food was shown to reduce both the rate and extent of absorption of capceitabine (see **Clinical Pharmacology** (7.2.3)). In all clinical trials, patients were instructed to administer capceitabine within 30 minutes after a meal. It is recommended that capceitabine be administered with food (see **Dosage and Administration** (2)).

## 8. USE IN SPECIFIC POPULATIONS

### 8.1 Pregnancy

#### Risk Summary

Based on findings in animal reproduction studies and its mechanism of action, capceitabine can cause fetal harm when administered to a pregnant woman (see **Clinical Pharmacology** (12.1)). Limited available human data are not sufficient to inform the drug-associated risk during pregnancy. In animal reproduction studies, administration of capceitabine to pregnant animals during the period of organogenesis caused embryo lethality and teratogenicity in mice and embryo lethality in monkeys at oral doses 1.2 to 8 times the exposure (AUC) in patients receiving the recommended dose respectively (see **Data**). A primate pregnant woman of the administration of capceitabine to a fetus.

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2 to 4 and 15 to 20%, respectively.

#### Data

##### Animal Data

Oral administration of capceitabine to pregnant mice during the period of organogenesis at a dose of 188 mg/kg/day caused malformations and embryo lethality. In separate pharmacokinetic studies, this dose in mice produced 5-FU AUC values that were approximately 0.2 times the AUC values in patients administered the recommended dose daily. Malformations in mice included cleft palate, arched palate, microphthalmia, polydactyly, lordokyphosis, kinky tail and dilation of cerebral ventricles. Oral administration of capceitabine to pregnant monkeys during the period of organogenesis at a dose of 90 mg/kg/day caused fetal lethality. This dose produced 5-FU AUC values that were approximately 0.6 times the AUC values in patients administered the recommended daily dose.

### 8.2 Lactation

#### Risk Summary

There is no information regarding the presence of capceitabine in human milk, or on its effects on milk production or the breast-fed infant. Capceitabine metabolites were present in the milk of lactating mice (see **Data**). Sections of the placenta for serious adverse reactions from capceitabine exposure in breast-fed infants, advise women not to breastfeed during treatment with capceitabine and for 2 weeks after the final dose.

#### Data

Lactating mice given a single oral dose of capceitabine excreted significant amounts of capceitabine metabolites into the milk.

### 8.3 Females and Males of Reproductive Potential

#### Pregnancy Testing

Pregnancy testing is recommended for females of reproductive potential prior to initiating capceitabine.

#### Contraception

Capceitabine can cause fetal harm when administered to a pregnant woman (see **Use in Specific Populations** (8.1)). Advise females of reproductive potential to use effective contraception during treatment and for 6 months following the final dose of capceitabine.

#### Males

Based on genetic toxicity findings, advise male patients with female partners of reproductive potential to use effective contraception during treatment and for 3 months following the last dose of Capceitabine (see **Nonclinical Toxicology** (13.1)).

#### Infertility

Based on animal studies, capceitabine may impair fertility in females and males of reproductive potential (see **Nonclinical Toxicology** (13.1)).

### 8.4 Pediatric Use

The safety and effectiveness of capceitabine in pediatric patients have not been established. No clinical benefit was demonstrated in two single arm trials in pediatric patients with newly diagnosed brainstem gliomas and high grade gliomas. In both trials, pediatric patients received an investigational pediatric formulation of capceitabine concomitantly with following conventional of radiation therapy (total dose of 5500 cGy in 180 cGy fractions). The relative bioavailability of the investigational formulation to capceitabine was similar.

The first trial was conducted in 22 pediatric patients (median age 8 years, range 5 to 17 years) with newly diagnosed non-disseminated intrinsic diffuse brainstem gliomas and high grade gliomas. In the dose-finding portion of the trial, patients received capceitabine with concomitant radiation therapy at doses ranging from 500 mg/m<sup>2</sup> to 850 mg/m<sup>2</sup> every 12 hours for up to 9 weeks. After a 2 week break, patients received 1250 mg/m<sup>2</sup> capceitabine every 12 hours on Days 1 to 14 of a 21-day cycle for up to 3 cycles. The maximum tolerated dose (MTD) of capceitabine administered concomitantly with radiation therapy was 650 mg/m<sup>2</sup> every 12 hours. The major dose limiting toxicities were palmar-plantar erythrodysesthesia and alanine aminotransferase (ALT) elevation.

The second trial was conducted in 34 additional pediatric patients with newly diagnosed intrinsic diffuse brainstem gliomas (median age 7 years, range 3 to 16 years) and 10 pediatric patients who received the MTD of capceitabine in the dose-finding trial and met the eligibility criteria for this trial. All patients received 650 mg/m<sup>2</sup> capceitabine every 12 hours with concomitant radiation therapy for up to 9 weeks. After a 2 week break, patients received 1250 mg/m<sup>2</sup> capceitabine every 12 hours on Days 1 to 14 of a 21-day cycle for up to 3 cycles.

There was no improvement in one-year progression-free survival rate and one-year overall survival rate in pediatric patients with newly diagnosed intrinsic brainstem gliomas who received capceitabine relative to a similar population of pediatric patients who participated in other clinical trials.

The adverse reaction profile of capceitabine was consistent with the known adverse reaction profile in adults, with the exception of laboratory abnormalities which occurred more commonly in pediatric patients. The most frequently reported laboratory abnormalities (see **Adverse Reactions** (6.2)) were increased ALT (75%), lymphocytopenia (73%), leukopenia (73%), hypokalemia (68%), thrombocytopenia (57%), hypophosphatemia (55%), neutropenia (50%), low hematoct (50%), hypocalcemia (49%), hypophosphatemia (45%) and hyponatremia (45%).

### 8.5 Geriatric Use

Physicians should pay particular attention to monitoring the adverse effects of capceitabine in the elderly (see **Warnings and Precautions** (5.1)).

### 8.6 Hepatic Insufficiency

Exercise caution when patients with mild to moderate hepatic dysfunction due to liver metastases are treated with capceitabine. The effect of severe hepatic dysfunction on capceitabine is not known (see **Warnings and Precautions** (5.2) and **Clinical Pharmacology** (7.2.3)).

### 8.7 Renal Insufficiency

Patients with moderate (creatinine clearance = 30 to 50 mL/min) and severe (creatinine clearance <30 mL/min) renal impairment showed higher exposure for capceitabine, 5-FU, and FBAL than in those with normal renal function (see **Contraindications** (4.2), **Warnings and Precautions** (5.3), **Dosage and Administration** (2.3), and **Clinical Pharmacology** (7.2.3)).

### 10. OVERDOSAGE

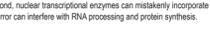
The manifestations of acute overdose would include nausea, vomiting, diarrhea, gastrointestinal irritation and bleeding, and bone marrow depression. Management of overdose should include customary supportive medical interventions aimed at controlling the presenting clinical manifestations. Although no clinical experience using dialysis as a treatment for capceitabine overdose has been reported, dialysis may be of benefit in reducing circulating concentrations of 5-FU, a low-molecular-weight metabolite of the parent compound.

Single doses of capceitabine were not lethal to mice, rats, and monkeys at doses up to 2,000 mg/kg (2.4, 4.8, and 9.6 times the recommended human daily dose on a mg/m<sup>2</sup> basis).

## 11. DESCRIPTION

Capceitabine is a fluoropyrimidine carbamate with antitumor activity. It is an orally administered systemic prodrug of 5-deoxy-5-fluorouridine (5-FU) which is converted to 5-Fluorouracil.

The chemical name for capceitabine is 5'-deoxy-5-fluoro-N-(pentyl)oxy carbonyl)-cytidine and has a molecular weight of 359.35. Capceitabine has the following structural formula:



Capceitabine is a white to off-white crystalline powder with an aqueous solubility of 26 mg/mL at 20 °C.

Capceitabine tablets are supplied as oblong shaped, biconvex film coated tablets for oral administration. Each light peach to peach colored tablet contains 150 mg or 500 mg capceitabine tablets. Each film coated tablet contains Each film coated tablet contains anhydrous lactose, croscarmellose sodium, hypromellose, magnesium stearate and microcrystalline cellulose. The light peach or peach film coating contains hypromellose, talc, titanium dioxide, iron oxide red, ferrous ferrous oxide and iron oxide yellow.

## 12. CLINICAL PHARMACOLOGY

### 12.1 Mechanism of Action

Enzymes convert capceitabine to 5-fluorouracil (5-FU) in vivo. Both normal and tumor cells metabolize 5-FU to 5-fluoro-2'-deoxyuridine monophosphate (FdUMP) and 5-fluorouridine triphosphate (FdUTP). These metabolites cause cell injury by two different mechanisms. First, FdUMP and the folate cofactor, N<sup>5</sup>,methylene tetrahydrofolate, bind to thymidylate synthase (TS) to form a covalently bound ternary complex. This binding inhibits the formation of thymine from 2'-deoxyuridylate. Thymidylate is necessary for synthesis of DNA, so that a deficiency of this compound can inhibit cell division. Second, nuclear transcriptional enzymes can mistakenly incorporate FdUTP in place of uridine triphosphate (UTP) during the synthesis of RNA. This metabolic error can interfere with RNA processing and protein synthesis.

### 12.3 Pharmacokinetics

Capceitabine has been evaluated in 1,255 mg/m<sup>2</sup> BID to cancer patients, capceitabine reached peak blood levels in about 1.5 hours (T<sub>max</sub>) with peak 5-FU levels occurring slightly later, at 2 hours. Food reduced both the rate and extent of absorption of capceitabine with mean C<sub>max</sub> and AUC<sub>0-24</sub> decreased by 60% and 35%, respectively. The C<sub>max</sub> and AUC<sub>0-24</sub> of 5-FU were also reduced by food to 45% and 21%, respectively. Food affected T<sub>max</sub> of both parent and 5-FU by 1.5 hours (see **Warnings and Precautions** (5.3), **Dosage and Administration** (2), and **Drug-Food Interactions** (7.2)).

The pharmacokinetics of capceitabine and its metabolites have been evaluated in about 200 cancer patients over a dosage range of 500 to 3,500 mg/m<sup>2</sup> day. Over this range, the pharmacokinetics of capceitabine and its metabolites, 5-DFUR were dose proportional and did not change over time. The increases in the AUC of 5-DFUR and 5-FU, however, were greater than proportional to the increase in dose and the AUC of 5-FU was 34% higher on day 14 than on day 1. The interpatient variability in the C<sub>max</sub> and AUC of 5-FU was greater than 85%.

### Distribution

Plasma protein binding of capceitabine and its metabolites is less than 60% and is not concentration-dependent. Capceitabine was primarily bound to human albumin (approximately 55%). Capceitabine has a low potential for pharmacokinetic interactions related to plasma protein binding.

### Bioactivation and Metabolism

Capceitabine is extensively metabolized enzymatically to 5-FU. In the liver, a 60 kDa carboxylesterase hydrolyzes much of the compound to 5-deoxy-5-fluorouridine (5-DFUR). Cytidine deaminase, an enzyme found in most tissues, including tumors, subsequently converts 5-DFUR to 5-FU. The enzyme, thymidine phosphorylase (TPase), then hydrolyzes 5-DFUR to the active drug 5-FU. Many tissues throughout the body express thymidine phosphorylase. Some human carcinomas express this enzyme in higher concentrations than surrounding normal tissues. Following oral administration of capceitabine 7 days before surgery in patients with colorectal cancer, the median ratio of 5-FU concentration in colorectal tumors to adjacent tissues was 2.9 (range from 0.9 to 9). These ratios have not been evaluated in breast cancer patients or compared to 5-FU infusion.



The enzyme dihydropyrimidine dehydrogenase hydrolyzes 5-FU, the product of capceitabine metabolism, to the much less toxic 5-fluoro-5,6-dihydro-fluorouracil (5-FU-DH). Dihydropyrimidine dehydrogenase (DPH) cleaves the prodrug to yield 5-fluoro-uracil-2-propanoic acid (FUPA). 5-FU-DH and propanoic acid are excreted in urine as unchanged drug. The elimination half-life of parent capceitabine and 5-FU was about 0.75 hours.

In vitro enzymatic studies with human liver microsomes indicated that capceitabine and its metabolites (5-DFUR, 5-DFUR, 5-FU, and FBAL) did not inhibit the metabolism of test substrates by cytochrome P450 isoenzymes 1A2, 2A6, 3A4, 3A4, 2C19, 2D6, and 2E1.

### Excretion

Capceitabine and its metabolites are predominantly excreted in urine; 95.5% of administered capceitabine dose is recovered in urine. Fecal excretion is minimal (2.6%). The major metabolite excreted in urine is FBAL, which represents 57% of the administered dose. About 3% of the administered dose is excreted in urine as unchanged drug. The elimination half-life of parent capceitabine and 5-FU was about 0.75 hours.

### Effect of Age, Gender, and Race on the Pharmacokinetics of Capceitabine

A population analysis of pooled data from the two large controlled studies in patients with metastatic colorectal cancer (n=505) who were administered capceitabine at 1,250 mg/m<sup>2</sup> twice a day indicated that gender (202 females and 303 males) and race (455 white/Caucasian patients, 22 black patients and 28 patients of other race) had no influence on the pharmacokinetics of 5-DFUR, 5-FU and FBAL. Age has no significant influence on the pharmacokinetics of 5-DFUR and 5-FU over the range of 27 to 88 years. A 20% increase in age results in a 15% increase in AUC of FBAL (see **Warnings and Precautions** (5.1) and **Dosage and Administration** (2.4)).

Following oral administration of 825 mg/m<sup>2</sup> capceitabine twice daily for 14 days, Japanese patients (n=18) had about 36% lower C<sub>max</sub> and 24% lower AUC for capceitabine than the Caucasian patients (n=22). Japanese patients had also about 24% lower C<sub>max</sub> and 21% lower AUC for 5-FU than the Caucasian patients. The clinical significance of these differences is unknown. No significant differences occurred in the exposure to other metabolites (5-DFUR, 5-DFUR, and 5-FU).

### Effect of Hepatic Insufficiency

Capceitabine has been evaluated in 13 patients with mild to moderate hepatic dysfunction due to liver metastases defined by a composite score including bilirubin, AST/ALT and alkaline phosphatase following a single 1,255 mg/m<sup>2</sup> dose of capceitabine. Both AUC<sub>0-24</sub> and C<sub>max</sub> of capceitabine increased by 60% in patients with hepatic dysfunction compared to patients with normal hepatic function (n=14). AUC<sub>0-24</sub> and C<sub>max</sub> of 5-FU were not affected. In patients with mild to moderate hepatic dysfunction due to liver metastases, oral capceitabine and 5-FU were not affected. The effect of severe hepatic dysfunction on capceitabine is not known (see **Warnings and Precautions** (5.1) and **Use in Specific Populations** (8.6)).

### Effect of Renal Insufficiency

Following oral administration of 1,250 mg/m<sup>2</sup> capceitabine twice a day to cancer patients with varying degrees of renal impairment, patients with moderate (creatinine clearance = 30 to 50 mL/min) and severe (creatinine clearance <30 mL/min) renal impairment showed 85% and 228% higher systemic exposure to FBAL on day 1 compared to normal renal function patients (creatinine clearance >80 mL/min). Systemic exposure to 5-DFUR was 42% and 71% greater in moderately and severely renal impaired patients, respectively, than in normal patients. Systemic exposure to capceitabine was about 25% greater in both moderately and severely renal impaired patients (see **Dosage and Administration** (2.4), **Contraindications** (4.2), **Warnings and Precautions** (5.3), and **Use in Specific Populations** (8.7)).

### Effect of Capceitabine on the Pharmacokinetics of Warfarin

In four patients with chronic administration of capceitabine (1,250 mg/m<sup>2</sup> bid) with a single 20 mg dose of warfarin increased the mean AUC of S-warfarin by 5% and decreased its clearance by 37%. Baseline corrected AUC of INR in these 4 patients was 1.8-fold, and the maximum observed mean INR value was increased by 51% (see **Boxed Warning** and **Drug-Drug Interactions** (7.1)).

### Effect of Antacids on the Pharmacokinetics of Capceitabine

When Maalox<sup>®</sup> (20 mL), an aluminum hydroxide and magnesium hydroxide containing antacid, was administered immediately after capceitabine (1,250 mg/m<sup>2</sup>, n=12 cancer patients), AUC and C<sub>max</sub> increased by 16% and 35%, respectively, for capceitabine and by 18% and 22%, respectively, for 5-DFUR. No effect was observed on the other three major metabolites (5-DFUR, 5-FU, FBAL) (see **Drug-Drug Interactions** (7.1)).

### Effect of Capceitabine on the Pharmacokinetics of Docetaxel and VEGF Inhibitors

A Phase 1 study evaluated the effect of capceitabine on the pharmacokinetics of docetaxel (Taxoterm<sup>®</sup>) and the effect of docetaxel on the pharmacokinetics of capceitabine was conducted in 26 patients with solid tumors. Capceitabine was found to have no effect on the pharmacokinetics of docetaxel (C<sub>max</sub> and AUC) and docetaxel has no effect on the pharmacokinetics of capceitabine and the 5-FU precursor 5-DFUR.

## 13. NONCLINICAL TOXICOLOGY

### 13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Adequate studies investigating the carcinogenic potential of capceitabine have not been conducted. Capceitabine was not mutagenic in vivo to bacteria (Ames test) or mammalian cells (Chinese hamster V79HPRT gene mutation assay). Capceitabine was clastogenic in vitro to human peripheral blood lymphocytes but not clastogenic in vivo in mouse bone marrow chromosomes test. Fluorouracil causes mutations in bacteria and yeast. Fluorouracil also causes chromosomal abnormalities in the mouse micronucleus test in vivo.

In studies of fertility and general reproductive performance in female mice, oral capceitabine doses of 760 mg/kg/day (about 2,300 mg/m<sup>2</sup>/day) disturbed estrus and consequently caused a decrease in fertility. In mice that became pregnant, no fetuses survived until the dam's lactation. The disturbance in estrus was reversible. In males, this dose caused degenerative changes in the testes, including decreases in the number of spermatozoa and spermids. In separate pharmacokinetic studies, this dose in mice produced 5-DFUR AUC values about 0.7 times the corresponding values in patients administered the recommended daily dose.

## 14. CLINICAL STUDIES

### 14.1 Adjuvant Colon Cancer

A multicenter randomized, controlled phase 3 clinical trial in patients with Dukes' C colon cancer (X-ACCT) provided data concerning the use of capceitabine for the adjuvant treatment of patients with colon cancer. The primary objective of the study was to compare disease-free survival (DFS) in patients receiving capceitabine for those receiving 5-FU/Leucovorin alone. In this trial, 1887 patients were randomized either to treatment with capceitabine 1,250 mg/m<sup>2</sup> orally twice daily for 2 weeks followed by a 1-week rest period, given as 3-week cycles followed by 1-week rest period, or to treatment with 5-FU 425 mg/m<sup>2</sup> and 20 mg/m<sup>2</sup> IV leucovorin on days 1 to 5, given as 4-week cycles for a total of 6 cycles (24 weeks). Patients in the study were required to be between 18 and 75 years of age with histologically confirmed Dukes' C stage colon cancer with at least one positive lymph node and to have undergone within 6 weeks prior to randomization complete resection of the primary tumor without macroscopic or microscopic evidence of remaining tumor. Patients were also required to have no prior cytotoxic chemotherapy or immunotherapy (except steroids), and have an ECOG performance status of 0 or 1 (PS = 70%), ANC  $\geq$  1.5x10<sup>9</sup>/L, platelets  $\geq$  100x10<sup>9</sup>/L, serum creatinine  $\leq$  1.5 ULN, total bilirubin  $\leq$  1.5 ULN, AST/ALT  $\leq$  2.5 ULN and CEA within normal limits at time of randomization.

The baseline demographics for capceitabine and 5-FU/Leu patients are shown in Table 10. The baseline characteristics were well-balanced between arms.

Table 10 Baseline Demographics	Capceitabine (n=1,004)	5-FU/Leu (n=983)
Age (median, years)	63	63
Range	(25 to 82)	(22 to 82)
Gender		
Male (n, %)	542 (54)	532 (54)
Female (n, %)	461 (46)	451 (46)
ECOG PS		
0 (n, %)	849 (85)	830 (85)
1 (n, %)	152 (15)	147 (15)
Staging - Primary Tumor		
PT1 (n, %)	12 (1)	6 (0.6)
PT2 (n, %)	90 (9)	92 (9)
PT3 (n, %)	763 (76)	746 (76)
PT4 (n, %)	139 (14)	139 (14)
Other (n, %)	1 (0.1)	0 (0)
Staging - Lymph Node		
pN1 (n, %)	696 (69)	694 (71)
pN2 (n, %)	139 (14)	288 (29)
Other (n, %)	4 (0.4)	1 (0.1)

All patients with normal renal function or mild renal impairment began treatment at the full starting dose of 1,250 mg/m<sup>2</sup> orally twice daily. The starting dose was reduced in patients with moderate renal impairment (calculated creatinine clearance 30 to 50 mL/min) at baseline (see **Dosage and Administration** (2.4)). Subsequently, for all patients, doses were adjusted when needed according to toxicity. Dose management for capceitabine included dose reductions, cycle delays and treatment interruptions (see **Table 11**).

Table 11 Summary of Dose Modifications in X-ACCT Study

	Capceitabine (n=992)	5-FU/Leu (n=974)
Median relative dose intensity (%)	93	92
Patients completing full course of treatment (%)	83	87
Patients with treatment interruption (%)	15	5
Patients with cycle delay (%)	46	29
Patients with dose reduction (%)	42	44
Patients with treatment interruption, cycle delay, or dose reduction (%)	57	52

The median follow-up at the time of the analysis was 83 months (6.9 years). The hazard ratio for DFS for capceitabine compared to 5-FU/Leu was 0.88 (95% CI, 0.77 - 1.01) (see **Table 12** and **Figure 1**). Because the upper 2-sided 95% confidence limit of hazard ratio was less than 1.0, capceitabine was non-inferior to 5-FU/Leu. The choice of the non-inferiority margin of 1.20 corresponds to the relation of approximately 75% of the 5-FU/Leu effect on DFS. The hazard ratio for capceitabine compared to 5-FU/Leu with respect to overall survival was 0.86 (95% CI, 0.74 - 1.01). The 5-year overall survival rates were 71.4% for capceitabine and 68.4% for 5-FU/Leu (see **Figure 2**).

Table 12 Efficacy of Capceitabine vs 5-FU/Leu in Adjuvant Treatment of Colon Cancer <sup>a</sup>	Capceitabine (n=1,004)	5-FU/Leu (n=983)
All Randomized Population		
Median follow-up (months)	83	83
5-year Disease-Free Survival Rates (%) <sup>b</sup>	59.1	54.6
Hazard Ratio (capceitabine/5-FU/Leu)		0.88 (0.77 to 1.01)
95% CI for Hazard Ratio		
P-value		p = 0.068

<sup>a</sup>Approximately 93.4% had 5-year DFS information based on Kaplan-Meier estimates

<sup>b</sup>Test of superiority of capceitabine vs 5-FU/Leu (Wald chi-square test)

Figure 1 Kaplan-Meier Estimates of Disease-Free Survival (All Randomized Population)<sup>b</sup>

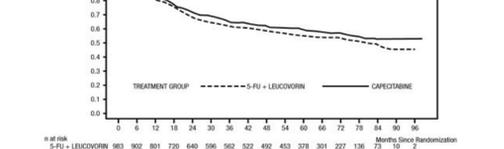
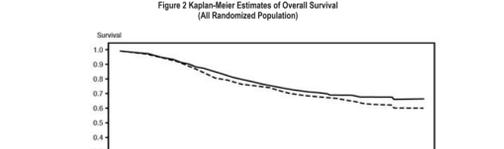


Figure 2 Kaplan-Meier Estimates of Overall Survival (All Randomized Population)



<sup>a</sup>Capceitabine has been demonstrated to be non-inferior to 5-FU/Leu.

## 14.2 Metastatic Colorectal Cancer