

## SUMMARY OF PRODUCT CHARACTERISTICS

### 1 NAME OF THE MEDICINAL PRODUCT

Exemestane 25 mg film-coated tablets

### 2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each film-coated tablet contains 25 mg exemestane.

Excipients with known effect

Contains 0.4 mg glucose (as monohydrate).

For the full list of excipients, see section 6.1.

### 3 PHARMACEUTICAL FORM

Film-coated tablet.

Yellow film-coated biconvex round (approximately 6 mm) tablets, debossed with 'E9MT' on one side and '25' on the other side.

### 4 CLINICAL PARTICULARS

#### 4.1 Therapeutic indications

Exemestane is indicated for the adjuvant treatment of postmenopausal women with oestrogen receptor positive invasive early breast cancer (EBC), following 2 – 3 years of initial adjuvant tamoxifen therapy.

Exemestane is indicated for the treatment of advanced breast cancer in women with natural or induced postmenopausal status whose disease has progressed following anti-oestrogen therapy. Efficacy has not been demonstrated in patients with oestrogen receptor negative status.

#### 4.2 Posology and method of administration

Posology

*Adults and elderly*

The recommended dose of exemestane is one film-coated tablet (25 mg) to be taken once daily, preferably after a meal.

In patients with early breast cancer, treatment with exemestane should continue until completion of five years of combined sequential adjuvant hormonal therapy (tamoxifen followed by exemestane), or earlier if tumour relapse occurs.

In patients with advanced breast cancer, treatment with exemestane should continue until tumour progression is evident.

No dose adjustments are required for patients with hepatic or renal insufficiency (see section 5.2).

#### *Paediatric population*

Not recommended for use in children.

### **4.3 Contraindications**

Exemestane is contraindicated in patients with hypersensitivity to the active substance or to any of the excipients listed in section 6.1, in pre-menopausal women and in pregnant or lactating women.

### **4.4 Special warnings and precautions for use**

Exemestane should not be administered to women with pre-menopausal endocrine status. Therefore, whenever clinically appropriate, the post-menopausal status should be ascertained by assessment of LH, FSH and oestradiol levels.

Exemestane should be used with caution in patients with hepatic or renal impairment.

Patients with rare glucose-galactose malabsorption should not take this medicine.

Exemestane is a potent oestrogen lowering agent, and a reduction in bone mineral density (BMD) and an increased fracture rate have been observed following administration (see section 5.1). At the commencement of adjuvant treatment with exemestane, women with osteoporosis or at risk of osteoporosis should have treatment baseline bone mineral health assessment based on current clinical guidelines and practice. Patients with advanced disease should have their bone mineral density assessed on a case-by-case basis. Although adequate data to show the effects of therapy in the treatment of the bone mineral density loss caused by exemestane are not available, patients treated with exemestane should be carefully monitored and treatment for, or prophylaxis of, osteoporosis should be initiated in at risk patients.

Routine assessment of 25 hydroxy vitamin D levels prior to the start of aromatase inhibitor treatment should be considered, due to the high prevalence of severe deficiency in women with early breast cancer. Women with Vitamin D deficiency should receive supplementation with Vitamin D.

### **4.5 Interaction with other medicinal products and other forms of interaction**

*In vitro* evidence showed that the drug is metabolised through cytochrome P450 CYP3A4 and aldoketoreductases (see section 5.2) and does not inhibit any of the major CYP isoenzymes. In a clinical pharmacokinetic study, the specific inhibition of CYP3A4 by ketoconazole showed no significant effects on the pharmacokinetics of exemestane.

In an interaction study with rifampicin, a potent CYP450 inducer, at a dose of 600mg daily and a single dose of exemestane 25mg, the AUC of exemestane was reduced by 54% and C<sub>max</sub> by 41%. Since the clinical relevance of this interaction has not been evaluated, the co-administration of drugs, such as rifampicin, anticonvulsants (e.g. phenytoin and carbamazepine) and herbal preparations containing hypericum perforatum (St John's Wort) known to induce CYP3A4 may reduce the efficacy of exemestane.

Exemestane should be used cautiously with drugs that are metabolised via CYP3A4 and have a narrow therapeutic window. There is no clinical experience of the concomitant use of exemestane with other anticancer drugs.

Exemestane should not be coadministered with oestrogen-containing medicines as these would negate its pharmacological action.

### **4.6 Fertility, pregnancy and lactation**

#### Pregnancy

No clinical data on exposed pregnancies are available with exemestane. Studies on animals have shown reproductive toxicity (see section 5.3). Exemestane is therefore contraindicated in pregnant women.

#### Breastfeeding

It is not known whether exemestane is excreted into human milk. Exemestane should not be administered to lactating woman.

#### Women of perimenopausal status or child-bearing potential

The physician needs to discuss the necessity of adequate contraception with women who have the potential to become pregnant including women who are perimenopausal or who have recently become postmenopausal, until their postmenopausal status is fully established (see sections 4.3 and 4.4).

### **4.7 Effects on ability to drive and use machines**

Drowsiness, somnolence, asthenia and dizziness have been reported with the use of the drug. Patients should be advised that, if these events occur, their physical and/or mental abilities required for operating machinery or driving a car may be impaired.

### **4.8 Undesirable effects**

Exemestane was generally well tolerated across all clinical studies conducted with exemestane at a standard dose of 25 mg/day, and undesirable effects were usually mild to moderate.

The withdrawal rate due to adverse events was 7.4% in patients with early breast cancer receiving adjuvant treatment with exemestane following initial adjuvant tamoxifen therapy.

The most commonly reported adverse reactions were hot flushes (22%), arthralgia (18%) and fatigue (16%).

The withdrawal rate due to adverse events was 2.8% in the overall patient population with advanced breast cancer. The most commonly reported adverse reactions were hot flushes (14%) and nausea (12%).

Most adverse reactions can be attributed to the normal pharmacological consequences of oestrogen deprivation (e.g. hot flushes).

The reported adverse reactions from clinical studies and post-marketing experience are listed below by system organ class and by frequency.

Frequencies are defined as: Very common ( $\geq 1/10$ ); Common ( $\geq 1/100$  to  $< 1/10$ ); Uncommon ( $\geq 1/1,000$  to  $< 1/100$ ); Rare ( $\geq 1/10,000$  to  $< 1/1,000$ ); Very rare ( $< 1/10,000$ ); Not known (cannot be estimated from the available data).

Table 1:

|   |  |
|---|--|
| <u>Blood and lymphatic system disorders</u> |  |
| Very common:                                | Leucopenia <sup>(**)</sup>                 |
| Common:                                     | Thrombocytopenia <sup>(**)</sup>           |
| Not known:                                  | Lymphocyte count decreased <sup>(**)</sup> |
| <u>Immune system disorders</u>              |  |
| Uncommon:                                   | Hypersensitivity                           |
| <u>Metabolism and nutrition disorders</u>   |  |
| Common:                                     | Anorexia                                   |
| <u>Psychiatric disorders</u>                |  |

|   |   |
|---|---|
| Very common:  | Depression, insomnia  |
| <u>Nervous system disorders</u>                             |   |
| Very common:  | Headache, dizziness   |
| Common:   | Carpal tunnel syndrome, paraesthesia  |
| Rare:   | Somnolence  |
| <u>Vascular disorders</u>                                   |   |
| Very common:  | Hot flushes   |
| <u>Gastrointestinal disorders</u>                           |   |
| Very common:  | Abdominal pain, nausea  |
| Common:   | Vomiting, diarrhoea, constipation, dyspepsia  |
| <u>Hepatobiliary disorders</u>                              |   |
| Very common:  | Hepatic enzyme increased, blood bilirubin increased, blood alkaline phosphatase increased |
| Rare:   | Hepatitis <sup>(†)</sup> , cholestatic hepatitis <sup>(†)</sup>                           |
| <u>Skin and subcutaneous tissue disorders</u>               |   |
| Very common:  | Increased sweating  |
| Common:   | Alopecia, rash, urticaria, pruritus   |
| Rare:   | Acute generalised exanthematous pustulosis <sup>(†)</sup>                                 |
| <u>Musculoskeletal and bone disorders</u>                   |   |
| Very common:  | Joint and musculoskeletal pain (*)  |
| Common:   | Fracture, osteoporosis  |
| <u>General disorders and administration site conditions</u> |   |
| Very common:  | Pain, fatigue   |
| Common:   | Oedema peripheral, asthenia   |

(\*) Includes: arthralgia, and less frequently pain in extremity, osteoarthritis, back pain, arthritis, myalgia and joint stiffness.

(\*\*) In patients with advanced breast cancer thrombocytopenia and leucopenia have been rarely reported. An occasional decrease in lymphocytes has been observed in approximately 20% of patients receiving exemestane, particularly in patients with pre-existing lymphopenia; however, mean lymphocyte values in these patients did not change significantly over time and no corresponding increase in viral infections was observed. These effects have not been observed in patients treated in early breast cancer studies.

(†) Frequency calculated by rule of 3/X.

The table below presents the frequency of pre-specified adverse events and illnesses in the early breast cancer study Intergroup Exemestane Study (IES), irrespective of causality, reported in patients receiving trial therapy and up to 30 days after cessation of trial therapy.

| <b>Adverse events and illnesses</b> | <b>Exemestane<br/>(N = 2249)</b> | <b>Tamoxifen<br/>(N = 2279)</b> |
|-------------------------------------|----------------------------------|---------------------------------|
| Hot flushes                         | 491 (21.8%)                      | 457 (20.1%)                     |
| Fatigue                             | 367 (16.3%)                      | 344 (15.1%)                     |

|                       |             |             |
|-----------------------|-------------|-------------|
| Headache              | 305 (13.6%) | 255 (11.2%) |
| Insomnia              | 290 (12.9%) | 204 (9.0%)  |
| Sweating increased    | 270 (12.0%) | 242 (10.6%) |
| Gynaecological        | 235 (10.5%) | 340 (14.9%) |
| Dizziness             | 224 (10.0%) | 200 (8.8%)  |
| Nausea                | 200 (8.9%)  | 208 (9.1%)  |
| Osteoporosis          | 116 (5.2%)  | 66 (2.9%)   |
| Vaginal haemorrhage   | 90 (4.0%)   | 121 (5.3%)  |
| Other primary cancer  | 84 (3.6%)   | 125 (5.3%)  |
| Vomiting              | 50 (2.2%)   | 54 (2.4%)   |
| Visual disturbance    | 45 (2.0%)   | 53 (2.3%)   |
| Thromboembolism       | 16 (0.7%)   | 42 (1.8%)   |
| Osteoporotic fracture | 14 (0.6%)   | 12 (0.5%)   |
| Myocardial infarction | 13 (0.6%)   | 4 (0.2%)    |

In the IES study, the frequency of ischemic cardiac events in the exemestane and tamoxifen treatment arms was 4.5% versus 4.2%, respectively. No significant difference was noted for any individual cardiovascular event including hypertension (9.9% versus 8.4%), myocardial infarction (0.6% versus 0.2%) and cardiac failure (1.1% versus 0.7%).

In the IES study, exemestane was associated with a greater incidence of hypercholesterolemia compared with tamoxifen (3.7% vs. 2.1%).

In a separate double blinded, randomized study of postmenopausal women with early breast cancer at low risk treated with exemestane (N=73) or placebo (N=73) for 24 months, exemestane was associated with an average 7-9% mean reduction in plasma HDL-cholesterol, versus a 1% increase on placebo. There was also a 5-6% reduction in apolipoprotein A1 in the exemestane group versus 0-2% for placebo. The effect on the other lipid parameters analysed (total cholesterol, LDL cholesterol, triglycerides, apolipoprotein-B and lipoprotein-a) was very similar in the two treatment groups. The clinical significance of these results is unclear.

In the IES study, gastric ulcer was observed at a higher frequency in the exemestane arm compared to tamoxifen (0.7% versus <0.1%). The majority of patients on exemestane with gastric ulcer received concomitant treatment with non-steroidal anti-inflammatory agents and/or had a prior history.

#### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the Yellow Card Scheme, Website: [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard)

## **4.9 Overdose**

Clinical trials have been conducted with exemestane given up to 800 mg in a single dose to healthy female volunteers and up to 600 mg daily to postmenopausal women with advanced breast cancer; these dosages were well tolerated. The single dose of exemestane that could result in life-threatening symptoms is not known. In rats and dogs, lethality was observed after single oral doses equivalent respectively to 2000 and 4000 times the recommended human dose on a mg/m<sup>2</sup> basis. There is no specific antidote to overdosage and treatment must be symptomatic. General supportive care, including frequent monitoring of vital signs and close observation of the patient, is indicated.

## 5. PHARMACOLOGICAL PROPERTIES

### 5.1 Pharmacodynamic properties

Pharmacotherapeutic group: hormone antagonists and related agents, aromatase inhibitors

ATC code: L02BG06

#### Mechanism of action

Exemestane is an irreversible, steroidal aromatase inhibitor, structurally related to the natural substrate androstenedione. In post-menopausal women, oestrogens are produced primarily from the conversion of androgens into oestrogens through the aromatase enzyme in peripheral tissues. Oestrogen deprivation through aromatase inhibition is an effective and selective treatment for hormone dependent breast cancer in postmenopausal women. In postmenopausal women, exemestane p.o. significantly lowered serum oestrogen concentrations starting from a 5 mg dose, reaching maximal suppression (>90%) with a dose of 10-25 mg. In postmenopausal breast cancer patients treated with the 25 mg daily dose, whole body aromatization was reduced by 98%.

Exemestane does not possess any progestogenic or oestrogenic activity. A slight androgenic activity, probably due to the 17-hydro derivative, has been observed mainly at high doses. In multiple daily doses trials, exemestane had no detectable effects on adrenal biosynthesis of cortisol or aldosterone, measured before or after ACTH challenge, thus demonstrating its selectivity with regard to the other enzymes involved in the steroidogenic pathway.

Glucocorticoid or mineralocorticoid replacements are therefore not needed. A non dose-dependent slight increase in serum LH and FSH levels has been observed even at low doses: this effect is, however, expected for the pharmacological class and is probably the result of feedback at the pituitary level due to the reduction in oestrogen levels that stimulate the pituitary secretion of gonadotropins also in postmenopausal women.

#### Clinical efficacy and safety

##### *Adjuvant treatment of early breast cancer*

In a multicentre, randomised, double-blind study (IES), conducted in 4724 postmenopausal patients with oestrogen-receptor-positive or unknown primary breast cancer, patients who had remained disease-free after receiving adjuvant tamoxifen therapy for 2 to 3 years were randomised to receive 3 to 2 years of exemestane (25 mg/day) or tamoxifen (20 or 30 mg/day) to complete a total of 5 years of hormonal therapy.

##### *IES 52-month median follow-up*

After a median duration of therapy of about 30 months and a median follow-up of about 52 months, results showed that sequential treatment with exemestane after 2 to 3 years of adjuvant tamoxifen therapy was associated with a clinically and statistically significant improvement in disease-free survival (DFS) compared with continuation of tamoxifen therapy. Analysis showed that in the observed study period exemestane reduced the risk of breast cancer recurrence by 24% compared with tamoxifen (hazard ratio 0.76; p=0.00015). The beneficial effect of exemestane over tamoxifen with respect to DFS was apparent regardless of nodal status or prior chemotherapy.

Exemestane also significantly reduced the risk of contralateral breast cancer (hazard ratio 0.57, p=0.04158).

In the whole study population, a trend for improved overall survival was observed for exemestane (222 deaths) compared to tamoxifen (262 deaths) with a hazard ratio 0.85 (log-rank test: p = 0.07362), representing a 15% reduction in the risk of death in favour of exemestane. A statistically significant 23% reduction in the risk of dying (hazard ratio for

overall survival 0.77; Wald chi square test:  $p = 0.0069$ ) was observed for exemestane compared to tamoxifen when adjusting for the pre specified prognostic factors (i.e., ER status, nodal status, prior chemotherapy, use of HRT and use of bisphosphonates).

52-month main efficacy results in all patients (intention to treat population) and oestrogen

| <b>Endpoint Population</b>                           | <b>Exemestane Events /N (%)</b> | <b>Tamoxifen Events /N (%)</b> | <b>Hazard Ratio (95% CI)</b> | <b>p-value*</b> |
|--|---------------------------------|--------------------------------|------------------------------|-----------------|
| <b>Disease-free survival <sup>a</sup></b>            |                                 |                                |                              |                 |
| All patients   | <b>354</b> /2352 (15.1%)        | <b>453</b> /2372(19.1%)        | 0.76 (0.67-0.88)             | 0.00015         |
| ER+ patients   | <b>289</b> /2023 (14.3%)        | <b>370</b> /2021(18.3%)        | 0.75 (0.65-0.88)             | 0.00030         |
| <b>Contralateral breast cancer</b>                   |                                 |                                |                              |                 |
| All patients   | <b>20</b> /2352 (0.9%)          | <b>35</b> /2372 (1.5%)         | 0.57 (0.33-0.99)             | 0.04158         |
| ER+ patients   | <b>18</b> /2023 (0.9%)          | <b>33</b> /2021 (1.6%)         | 0.54 (0.30-0.95)             | 0.03048         |
| <b>Breast cancer free survival <sup>b</sup></b>      |                                 |                                |                              |                 |
| All patients   | <b>289</b> /2352(12.3%)         | <b>373</b> /2372 (15.7%)       | 0.76 (0.65-0.89)             | 0.00041         |
| ER+ patients   | <b>232</b> /2023 (11.5%)        | <b>305</b> /2021 (15.1%)       | 0.73 (0.62-0.87)             | 0.00038         |
| <b>Distant recurrence free survival <sup>c</sup></b> |                                 |                                |                              |                 |
| All patients   | <b>248</b> /2352(10.5%)         | <b>297</b> /2372 (12.5%)       | 0.83 (0.70-0.98)             | 0.02621         |
| ER+ patients   | <b>194</b> /2023 (9.6%)         | <b>242</b> /2021(12.0%)        | 0.78 (0.65-0.95)             | 0.01123         |
| <b>Overall survival <sup>d</sup></b>                 |                                 |                                |                              |                 |
| All patients   | <b>222</b> /2352 (9.4%)         | <b>262</b> /2372(11.0%)        | 0.85 (0.71-1.02)             | 0.07362         |
| ER+ patients   | <b>178</b> /2023 (8.8%)         | <b>211</b> /2021(10.4%)        | 0.84 (0.68-1.02)             | 0.07569         |

receptor positive patients are summarized in the table below:

\* Log-rank test; ER+ patients = oestrogen receptor positive patients;

<sup>a</sup> Disease-free survival is defined as the first occurrence of local or distant recurrence, contralateral breast cancer, or death from any cause;

<sup>b</sup> Breast cancer free survival is defined as the first occurrence of local or distant recurrence, contralateral breast cancer or breast cancer death;

<sup>c</sup> Distant recurrence free survival is defined as the first occurrence of distant recurrence or breast cancer death;

<sup>d</sup> Overall survival is defined as occurrence of death from any cause.

In the additional analysis for the subset of patients with oestrogen receptor positive or unknown status, the unadjusted overall survival hazard ratio was 0.83 (log-rank test:  $p = 0.04250$ ), representing a clinically and statistically significant 17% reduction in the risk of dying.

Results from the IES bone substudy demonstrated that women treated with exemestane following 2 to 3 years of tamoxifen treatment experienced moderate reduction in bone

mineral density. In the overall study, the treatment emergent fracture incidence evaluated during the 30 months treatment period was higher in patients treated with exemestane compared with tamoxifen (4.5% and 3.3% correspondingly,  $p=0.038$ ).

Results from the IES endometrial substudy indicate that after 2 years of treatment there was a median 33% reduction of endometrial thickness in the exemestane-treated patients compared with no notable variation in the tamoxifen-treated patients. Endometrial thickening, reported at the start of study treatment, was reversed to normal ( $< 5$  mm) for 54% of patients treated with exemestane.

#### *IES 87-month median follow-up*

After a median duration of therapy of about 30 months and a median follow-up of about 87 months, results showed that sequential treatment with exemestane after 2 to 3 years of adjuvant tamoxifen therapy was associated with a clinically and statistically significant improvement in DFS compared with continuation of tamoxifen therapy. Results showed that in the observed study period exemestane significantly reduced the risk of breast cancer recurrence by 16% compared with tamoxifen (hazard ratio 0.84;  $p = 0.002$ ).

Overall, the beneficial effect of exemestane over tamoxifen with respect to DFS was apparent regardless of nodal status or prior chemotherapy or hormonal therapy. Statistical significance was not maintained in a few sub-groups with small sample sizes. These showed a trend favouring exemestane in patients with more than 9 nodes positive, or previous chemotherapy CMF. In patients with nodal status unknown, previous chemotherapy other, as well as unknown/missing status of previous hormonal therapy a non statistically significant trend favouring tamoxifen was observed.

In addition, exemestane also significantly prolonged breast cancer-free survival (hazard ratio 0.82,  $p = 0.00263$ ), and distant recurrence-free survival (hazard ratio 0.85,  $p = 0.02425$ ).

Exemestane also reduced the risk of contralateral breast cancer, although the effect was no longer statistically significant in this observed study period (hazard ratio 0.74,  $p = 0.12983$ ).

In the whole study population, a trend for improved overall survival was observed for exemestane (373 deaths) compared to tamoxifen (420 deaths) with a hazard ratio 0.89 (log rank test:  $p = 0.08972$ ), representing an 11% reduction in the risk of death in favour of exemestane. When adjusting for the pre-specified prognostic factors (i.e., ER status, nodal status, prior chemotherapy, use of HRT and use of bisphosphonates), a statistically significant 18% reduction in the risk of dying (hazard ratio for overall survival 0.82; Wald chi square test:  $p = 0.0082$ ) was observed for exemestane compared to tamoxifen in the whole study population.

In the additional analysis for the subset of patients with oestrogen receptor positive or unknown status, the unadjusted overall survival hazard ratio was 0.86 (log-rank test:  $p = 0.04262$ ), representing a clinically and statistically significant 14% reduction in the risk of dying.

Results from a bone sub-study indicate that treatment with exemestane for 2 to 3 years following 3 to 2 years of tamoxifen treatment increased bone loss while on treatment (mean % change from baseline for BMD at 36 months: -3.37 [spine], -2.96 [total hip] for exemestane and -1.29 [spine], -2.02 [total hip], for tamoxifen). However, by the end of the 24 month post treatment period there were minimal differences in the change in BMD from baseline for both treatment groups, the tamoxifen arm having slightly greater final reductions in BMD at all sites (mean % change from baseline for BMD at 24 months post treatment - 2.17 [spine], -3.06 [total hip] for exemestane and -3.44 [spine], -4.15 [total hip] for tamoxifen).

The all fractures reported on-treatment and during follow-up was significantly higher in the exemestane group than on tamoxifen (169 [7.3%] versus 122 [5.2%];  $p = 0.004$ ), but no difference was noted in the number of fractures reported as osteoporotic.

#### *Treatment of advanced breast cancer*

In a randomised peer reviewed controlled clinical trial, exemestane at the daily dose of 25 mg has demonstrated statistically significant prolongation of survival, Time to Progression (TTP), Time to Treatment Failure (TTF) as compared to a standard hormonal treatment with megestrol acetate in postmenopausal patients with advanced breast cancer that had progressed following, or during, treatment with tamoxifen either as adjuvant therapy or as first-line treatment for advanced disease.

## 5.2 Pharmacokinetic properties

### Absorption

After oral administration of exemestane tablets, exemestane is absorbed rapidly. The fraction of the dose absorbed from the gastrointestinal tract is high. The absolute bioavailability in humans is unknown, although it is anticipated to be limited by an extensive first pass effect. A similar effect resulted in an absolute bioavailability in rats and dogs of 5%. After a single dose of 25 mg, maximum plasma levels of 18 ng/ml are reached after 2 hours. Concomitant intake with food increases the bioavailability by 40%.

### Distribution

The volume of distribution of exemestane, not corrected for the oral bioavailability, is ca 20000 l. The kinetics is linear and the terminal elimination half-life is 24 h. Binding to plasma proteins is 90% and is concentration independent. Exemestane and its metabolites do not bind to red blood cells.

Exemestane does not accumulate in an unexpected way after repeated dosing.

### Elimination

Exemestane is metabolised by oxidation of the methylene moiety on the 6 position by CYP3A4 isoenzyme and/or reduction of the 17-keto group by aldo-ketoreductase followed by conjugation. The clearance of exemestane is ca 500 l/h, not corrected for the oral bioavailability.

The metabolites are inactive or the inhibition of aromatase is less than the parent compound. The amount excreted unchanged in urine is 1% of the dose. In urine and faeces equal amounts (40%) of  $^{14}\text{C}$ -labeled exemestane were eliminated within a week.

### Special populations

**Age:** No significant correlation between the systemic exposure of exemestane and the age of subjects has been observed.

#### **Renal impairment:**

In patients with severe renal impairment ( $\text{CL}_{\text{cr}} < 30 \text{ ml/min}$ ) the systemic exposure to exemestane was 2 times higher compared with healthy volunteers.

Given the safety profile of exemestane, no dose adjustment is considered to be necessary.

#### **Hepatic impairment:**

In patients with moderate or severe hepatic impairment the exposure of exemestane is 2-3 fold higher compared with healthy volunteers. Given the safety profile of exemestane, no dose adjustment is considered to be necessary.

### 5.3 Preclinical safety data

**Toxicological studies:** Findings in the repeat dose toxicology studies in rat and dog were generally attributable to the pharmacological activity of exemestane, such as effects on reproductive and accessory organs. Other toxicological effects (on liver, kidney or central nervous system) were observed only at exposures considered sufficiently in excess of the maximum human exposure indicating little relevance to clinical use.

**Mutagenicity:** Exemestane was not genotoxic in bacteria (Ames test), in V79 Chinese hamster cells, in rat hepatocytes or in the mouse micronucleus assay. Although exemestane was clastogenic in lymphocytes in vitro, it was not clastogenic in two in vivo studies.

**Reproductive toxicology:** Exemestane was embryotoxic in rats and rabbits at systemic exposure levels similar to those obtained in humans at 25 mg/day. There was no evidence of teratogenicity.

**Carcinogenicity:** In a two-year carcinogenicity study in female rats, no treatment-related tumours were observed. In male rats the study was terminated on week 92, because of early death by chronic nephropathy. In a two-year carcinogenicity study in mice, an increase in the incidence of hepatic neoplasms in both genders was observed at the intermediate and high doses (150 and 450 mg/kg/day). This finding is considered to be related to the induction of hepatic microsomal enzymes, an effect observed in mice but not in clinical studies. An increase in the incidence of renal tubular adenomas was also noted in male mice at the high dose (450 mg/kg/day). This change is considered to be species- and gender-specific and occurred at a dose which represents 63-fold greater exposure than occurs at the human therapeutic dose. None of these observed effects is considered to be clinically relevant to the treatment of patients with exemestane.

## 6 PHARMACEUTICAL PARTICULARS

### 6.1 List of excipients

Core:

Mannitol (E421)  
Hypromellose  
Crospovidone (type B)  
Polysorbate 80  
Cellulose, microcrystalline  
Sodium starch glycolate (type A)  
Magnesium stearate  
Silica, Colloidal Anhydrous

Coating Ingredients:

Carmellose Sodium (E466)  
Maltodextrin  
Glucose Monohydrate  
Titanium dioxide (E171)  
Stearic acid (E570)  
Iron oxide yellow (E172)

## **6.2 Incompatibilities**

Not applicable.

## **6.3 Shelf-life**

3 years.

## **6.4 Special precautions for storage**

This medicinal product does not require any special storage conditions.

## **6.5 Nature and contents of container**

PVC/PVDC:Aluminium blisters in carton boxes.

30, 90 and 100 tablets; unit dose of 30 (30x1) tablets

Not all pack sizes may be marketed.

## **6.6 Special precautions for disposal**

Any unused medicinal product or waste material should be disposed of in accordance with local requirements.

## **7 MARKETING AUTHORISATION HOLDER**

Consilient Health Ltd.,  
5<sup>th</sup> floor, Beaux Lane House,  
Mercer Street Lower,  
Dublin 2.  
Ireland

## **8 MARKETING AUTHORISATION NUMBER**

PL 24837/0115

## **9 DATE OF FIRST AUTHORISATION / RENEWAL OF THE AUTHORISATION**

03/02/2011

## **10 DATE OF REVISION OF THE TEXT**

15/08/2019