

## PROFESSIONAL INFORMATION

### SCHEDULING STATUS

Schedule 5

#### 1. NAME OF THE MEDICINE

TREVICTA 175 mg (prolonged release suspension for injection)

TREVICTA 263 mg (prolonged release suspension for injection)

TREVICTA 350 mg (prolonged release suspension for injection)

TREVICTA 525 mg (prolonged release suspension for injection)

#### 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

##### 175 mg prolonged release suspension for injection

Each pre-filled syringe contains 273 mg paliperidone palmitate equivalent to 175 mg paliperidone.

##### 263 mg prolonged release suspension for injection

Each pre-filled syringe contains 410 mg paliperidone palmitate equivalent to 263 mg paliperidone.

##### 350 mg prolonged release suspension for injection

Each pre-filled syringe contains 546 mg paliperidone palmitate equivalent to 350 mg paliperidone.

##### 525 mg prolonged release suspension for injection

Each pre-filled syringe contains 819 mg paliperidone palmitate equivalent to 525 mg paliperidone.

Sugar free

For the full list of excipients, see section 6.1.

### **3. PHARMACEUTICAL FORM**

Prolonged release suspension for injection.

The suspension is white to off-white. The suspension is pH neutral (approximately 7.0).

### **4. CLINICAL PARTICULARS**

#### **4.1 Therapeutic indications**

TREVICTA, a 3-monthly injection, is indicated for the maintenance treatment of schizophrenia in adult patients who are clinically stable on a 1-monthly paliperidone palmitate prolonged release intramuscular injection formulation (preferably for 4 months or more) and who do not require dose adjustment (see section 5.1).

#### **4.2 Posology and method of administration**

##### Posology

Patients who are clinically stabilised on treatment with 1-monthly paliperidone palmitate prolonged release intramuscular (IM) injection formulation (preferably for four months or more) and do not require dose adjustment may be switched to TREVICTA.

TREVICTA should be initiated in place of the next scheduled dose of the 1-monthly paliperidone palmitate prolonged release intramuscular injection ( $\pm 7$  days). The TREVICTA dose should be based on the previous 1-monthly paliperidone palmitate prolonged release intramuscular injection dose using a 3.5-fold higher dose as shown in the following table:

**TREVICTA doses for patients adequately treated with 1-monthly paliperidone palmitate prolonged release IM injection**

<b>If the last dose of the 1-monthly paliperidone palmitate prolonged release IM injection was</b>	<b>Initiate TREVICTA at the following dose</b>
50 mg	175 mg
75 mg	263 mg
100 mg	350 mg
150 mg	525 mg

There is no equivalent dose of TREVICTA for the 25 mg dose of 1-monthly paliperidone palmitate prolonged release IM injection formulation which was not studied.

Following the initial TREVICTA dose, TREVICTA should be administered by intramuscular injection once every 3 months ( $\pm$  2 weeks, see also *Missed dose* section).

TREVICTA is for maintenance treatment of patients that do not require 3 monthly dose adjustments. If frequent 3 monthly dose adjustments are required, patients should be reassessed as to the appropriateness of treatment with TREVICTA. However over time some patients may require up or down titration of the maintenance dose within the approved 3 monthly dose range of 175 - 525 mg. Due to the long acting properties of TREVICTA, the response of the patient to an adjusted dose may not be apparent for several months, therefore caution is advised when dose adjustments are to be made.

*Switching from other antipsychotic medicinal products*

TREVICTA is to be used only after the patient has been adequately treated with 1-monthly paliperidone palmitate prolonged release IM injection preferably for four months or more.

*Switching from TREVICTA to other antipsychotic medicinal products*

If TREVICTA is discontinued, its prolonged release characteristics must be considered.

*Switching from TREVICTA to 1-monthly paliperidone palmitate prolonged release IM injection*

For switching from TREVICTA to the 1-monthly paliperidone palmitate prolonged release IM injection, 1-monthly paliperidone palmitate prolonged release IM injection should be administered at the time the next TREVICTA dose was to be administered using a 3.5-fold lower dose shown in the following table. The initiation dosing as described in the prescribing information for 1-monthly paliperidone palmitate prolonged release IM injection is not required. The 1-monthly paliperidone palmitate prolonged release IM injection should then continue to be dosed at monthly intervals as described within its prescribing information.

*Switching from TREVICTA to oral daily paliperidone prolonged release tablets*

For switching from TREVICTA to paliperidone prolonged release tablets, the daily dosing of paliperidone prolonged release tablets should be started 3 months after the **Doses of 1-monthly paliperidone palmitate prolonged release IM injection for patients switching from TREVICTA**

<b>If the last dose of TREVICTA is</b>	<b>Initiate 1-monthly paliperidone palmitate prolonged release IM injection 3 months later at the following dose</b>
175 mg	50 mg
263 mg	75 mg
350 mg	100 mg
525 mg	150 mg

last TREVICTA dose and treatment continued with paliperidone prolonged release tablets as described in the table below. The following table provides recommended dose conversion regimens to allow patients previously stabilised on different doses of TREVICTA to attain similar paliperidone exposure with paliperidone prolonged release tablets.

**Doses of paliperidone prolonged release tablets for patients switching from TREVICTA\***

Last TREVICTA once every 3 months IM dose (Week 0)	Week number after last TREVICTA dose		
	Week 12 to Week 18, inclusive	Week 19 to Week 24, inclusive	From Week 25 onwards
	Daily dose of paliperidone prolonged release tablets		
175 mg	3 mg	3 mg	3 mg
263 mg	3 mg	3 mg	6 mg
350 mg	3 mg	6 mg	9 mg
525 mg	6 mg	9 mg	12 mg

\* All doses of once daily paliperidone prolonged release tablets

should be individualised to the specific patient, taking into consideration variables such as reasons for switching, response to previous paliperidone treatment, severity of psychotic symptoms, and/or propensity for side effects.

Missed dose

*Dosing window*

TREVICTA should be injected once every 3 months. To avoid a missed dose of TREVICTA patients may be given the injection up to 2 weeks before or after the 3-month time point.

### Missed doses

If scheduled dose is missed and the time since last injection is	Action
> 3½ months up to 4 months	The injection should be administered as soon as possible and then resume the 3-monthly injection schedule.
4 months to 9 months	Use the recommended re-initiation regimen shown in the table below.
> 9 months	Re-initiate treatment with 1-monthly paliperidone palmitate injectable as described in the prescribing information for that product. TREVICTA can then be resumed after the patient has been clinically stabilised with 1-monthly paliperidone palmitate prolonged release IM injection preferably for four months or more

### Recommended re-initiation regimen after missing 4 months to 9 months of TREVICTA

If the last dose of TREVICTA was	Administer 1-monthly paliperidone palmitate prolonged release IM injection, two doses one week apart (into deltoid muscle)		Then administer TREVICTA (into deltoid <sup>a</sup> or gluteal muscle)
	Day 1	Day 8	1 month after day 8
175 mg	50 mg	50 mg	175 mg
263 mg	75 mg	75 mg	263 mg

350 mg	100 mg	100 mg	350 mg
525 mg	100 mg	100 mg	525 mg

<sup>a</sup> See also *Information intended for medical or healthcare professionals* for deltoid injection needle selection based on body weight.

## Special populations

### *Elderly*

Efficacy and safety in elderly patients > 65 years, have not been established.

In general, recommended dosing of TREVICTA for elderly patients with normal renal function is the same as for younger adult patients with normal renal function. As elderly patients may have reduced renal function, see Renal impairment below for dosing recommendations in patients with renal impairment.

### *Renal impairment*

TREVICTA has not been systematically studied in patients with renal impairment (see section 5.2). For patients with mild renal impairment (creatinine clearance  $\geq 50$  to  $< 80$  mL/min), dose should be adjusted, and the patient stabilised using 1-monthly paliperidone palmitate prolonged release IM injection, and then switched to TREVICTA.

TREVICTA is contraindicated in patients with moderate or severe renal impairment (creatinine clearance  $< 50$  mL/min).

### *Hepatic impairment*

TREVICTA has not been studied in patients with hepatic impairment. Based on experience with oral paliperidone, no dose adjustment is required in patients with mild or moderate hepatic impairment. As paliperidone has not been studied in patients with

severe hepatic impairment, caution is recommended in such patients. (See section 5.2).

#### Paediatric population

The safety and efficacy of TREVICTA in children and adolescents < 18 years of age have not been established. No data are available.

#### Method of administration

TREVICTA is intended for intramuscular use only. It must not be administered by any other route. Each injection must be administered only by a health care professional giving the full dose in a single injection. It should be injected slowly, deep into the deltoid or gluteal muscle. A switch from gluteal to deltoid (and vice versa) should be considered for future injection in the event of injection site discomfort (see section 4.8).

TREVICTA must be administered using only the thin wall needles that are provided in the TREVICTA pack. **Needles from the 1-monthly paliperidone palmitate injectable pack or other commercially available needles must not be used when administering TREVICTA.**

The contents of the pre-filled syringe should be inspected visually for foreign matter and discolouration prior to administration. It is important to shake the syringe vigorously with the tip up and a loose wrist for at least 15 seconds to ensure a homogeneous suspension. TREVICTA should be administered within 5 minutes after shaking. If more than 5 minutes pass before injection, shake vigorously again for at least 15 seconds to re-suspend the medicine.

### *Deltoid muscle administration*

The specified needle for administration of TREVICTA into the deltoid muscle is determined by the patient's weight.

- For those  $\geq 90$  kg, the thin wall 1½ inch, 22 gauge (0.72 mm x 38.1 mm) needle should be used.
- For those  $< 90$  kg, the thin wall 1 inch, 22 gauge (0.72 mm x 25.4 mm) needle should be used.

It should be administered into the centre of the deltoid muscle. Deltoid injections should be alternated between the two deltoid muscles.

### *Gluteal muscle administration*

The needle to be used for administration of TREVICTA into the gluteal muscle is the thin wall 1½ inch, 22 gauge (0.72 mm x 38.1 mm) needle regardless of body weight. It should be administered into the upper-outer quadrant of the gluteal muscle. Gluteal injections should be alternated between the two gluteal muscles.

### *Incomplete administration*

To avoid incomplete administration of TREVICTA, the pre-filled syringe must be shaken vigorously for at least 15 seconds within 5 minutes prior to administration to ensure a homogeneous suspension.

However, in the event of an incompletely injected dose, the dose remaining in the syringe should not be re-injected and another dose should not be given since it is difficult to estimate the proportion of the dose administered. The patient should be closely monitored and managed as clinically appropriate until the next scheduled 3-monthly injection of TREVICTA.

### **4.3 Contraindications**

Hypersensitivity to the active substance, to risperidone or to any of the excipients listed in section 6.1.

Patients with moderate to severe renal impairment.

Parkinson's disease and dementia with Lewy Bodies.

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

#### Use in patients who are in an acutely agitated or severely psychotic state

TREVICTA should not be used to manage acutely agitated or severely psychotic states when immediate symptom control is warranted.

#### QT interval

Caution should be exercised when paliperidone is prescribed in patients with known cardiovascular disease or family history of QT prolongation, and in concomitant use with other medicines thought to prolong the QT interval.

#### Neuroleptic malignant syndrome

Neuroleptic Malignant Syndrome (NMS), characterised by hyperthermia, muscle rigidity, autonomic instability, altered consciousness, and elevated serum creatine phosphokinase levels has been reported to occur with paliperidone. Additional clinical signs may include myoglobinuria (rhabdomyolysis) and acute renal failure. If a patient develops signs or symptoms indicative of NMS, paliperidone should be discontinued. Consideration should be given to the long-acting nature of TREVICTA.

### Tardive dyskinesia/extrapyramidal symptoms

Medicines with dopamine receptor antagonistic properties, such as TREVICTA have been associated with the induction of tardive dyskinesia characterised by rhythmical, involuntary movements, predominantly of the tongue and/or face. If signs and symptoms of tardive dyskinesia appear, the discontinuation of all antipsychotics, including paliperidone, should be considered. Consideration should be given to the long-acting nature of TREVICTA.

Caution is warranted in patients receiving both, psychostimulants (e.g., methylphenidate) and paliperidone concomitantly, as extrapyramidal symptoms could emerge when adjusting the dose of one or both medications. Gradual withdrawal of stimulant treatment is recommended (see section 4.5).

### Leukopenia, neutropenia, and agranulocytosis

Events of leukopenia, neutropenia, and agranulocytosis have been reported with paliperidone. Patients with a history of a clinically significant low white blood cell count (WBC) or a medicine-induced leukopenia/neutropenia should be monitored during the first few months of therapy and discontinuation of TREVICTA should be considered at the first sign of a clinically significant decline in WBC in the absence of other causative factors. Patients with clinically significant neutropenia should be carefully monitored for fever or other symptoms or signs of infection and treated promptly if such symptoms or signs occur. Patients with severe neutropenia (absolute neutrophil count  $< 1 \times 10^9/L$ ) should discontinue TREVICTA and have their WBC followed until recovery.

Consideration should be given to the long-acting nature of TREVICTA.

### Hypersensitivity reactions

Hypersensitivity reactions can occur even in patients who have previously tolerated oral risperidone or oral paliperidone (see section 4.8).

### Hyperglycaemia and diabetes mellitus

Hyperglycaemia, diabetes mellitus, and exacerbation of pre-existing diabetes, including diabetic coma and ketoacidosis, have been reported with paliperidone. Appropriate clinical monitoring is advisable in accordance with utilised antipsychotic guidelines. Patients treated with TREVICTA should be monitored for symptoms of hyperglycaemia (such as polydipsia, polyuria, polyphagia, and weakness) and patients with diabetes mellitus should be monitored regularly for worsening of glucose control.

### Weight gain

Significant weight gain has been reported with TREVICTA use.

Weight should be monitored regularly.

### Use in patients with prolactin-dependent tumours

Tissue culture studies suggest that cell growth in human breast tumours may be stimulated by prolactin. Although no clear association with the administration of antipsychotics has so far been demonstrated in clinical and epidemiological studies, caution is recommended in patients with a relevant medical history. Paliperidone should be used with caution in patients with a pre-existing tumour that may be prolactin-dependent.

### Orthostatic hypotension

Paliperidone may induce orthostatic hypotension based on its alpha-adrenergic blocking activity. In the clinical trials of TREVICTA, 0.3% of subjects reported orthostatic hypotension related adverse reaction. TREVICTA should be used with caution in patients with known cardiovascular disease (e.g., heart failure, myocardial infarction or ischaemia, conduction abnormalities), cerebrovascular disease, or conditions that predispose the patient to hypotension (e.g., dehydration and hypovolemia).

### Seizures

TREVICTA should be used cautiously in patients with a history of seizures or other conditions that potentially lower the seizure threshold.

### Renal impairment

The plasma concentrations of paliperidone are increased in patients with renal impairment. For patients with mild renal impairment (creatinine clearance  $\geq 50$  mL/min to  $< 80$  mL/min), dose should be adjusted, and the patient stabilised using 1-monthly paliperidone palmitate injectable, then transitioned to TREVICTA. TREVICTA is not recommended in patients with moderate or severe renal impairment (creatinine clearance  $< 50$  mL/min). (See sections 4.2 and 5.2).

### Hepatic impairment

No data are available in patients with severe hepatic impairment (Child-Pugh class C). Caution is recommended if paliperidone is used in such patients.

### Elderly patients with dementia

TREVICTA has not been studied in elderly patients with dementia. TREVICTA is not recommended to treat elderly patients with dementia due to increased risk of overall mortality and cerebrovascular adverse reactions.

The experience from risperidone cited below is considered valid also for paliperidone.

#### *Overall mortality*

In a meta-analysis of 17 controlled clinical trials, elderly patients with dementia treated with other atypical antipsychotics, including risperidone, aripiprazole, olanzapine, and quetiapine had an increased risk of mortality compared to placebo. Among those treated with risperidone, the mortality was 4% compared with 3.1% for placebo.

#### *Cerebrovascular adverse reactions*

An approximately 3-fold increased risk of cerebrovascular adverse reactions has been seen in randomised placebo-controlled clinical trials in the dementia population with some atypical antipsychotics, including risperidone, aripiprazole, and olanzapine. The mechanism for this increased risk is not known.

### Parkinson's disease and dementia with Lewy bodies

Caution is advised when prescribing TREVICTA to patients with Parkinson's disease or Dementia with Lewy Bodies (DLB) (See section 4.3) since both groups may be at increased risk of Neuroleptic Malignant Syndrome as well as having an increased sensitivity to antipsychotics. Manifestation of this increased sensitivity can include

confusion, obtundation, postural instability with frequent falls, in addition to extrapyramidal symptoms.

### Priapism

Antipsychotic medicines (including paliperidone) with alpha-adrenergic blocking effects have been reported to induce priapism. Patients should be informed to seek urgent medical care in case that priapism has not been resolved within 4 hours.

### Body temperature regulation

Antipsychotic medicines may cause body temperature dysregulation with hypothermia and/or hyperthermia

Appropriate care is advised when prescribing TREVICTA to patients who will be experiencing conditions which may contribute to an elevation in core body temperature, e.g., exercising strenuously, exposure to extreme heat, receiving concomitant medicinal products with anticholinergic activity or being subject to dehydration. Hyperthermia may occur with or without manifestations of NMS.

### Venous thromboembolism

Cases of venous thromboembolism (VTE) have been reported with antipsychotic medicinal products. Since patients treated with antipsychotics often present with acquired risk factors for VTE, all possible risk factors for VTE should be identified before and during treatment with TREVICTA and preventative measures undertaken.

### Antiemetic effect

An antiemetic effect was observed in preclinical studies with paliperidone. This effect, if it occurs in humans, may mask the signs and symptoms of overdose with certain medicines or of conditions such as intestinal obstruction, Reye's syndrome and brain tumour.

### Administration

Care must be taken to avoid inadvertent injection of TREVICTA into a blood vessel.

### Intraoperative floppy iris syndrome

Intraoperative Floppy Iris Syndrome (IFIS) has been observed during cataract surgery in patients treated with medicines with alpha 1a-adrenergic antagonist effect, such as TREVICTA (see section 4.8).

IFIS may increase the risk of eye complications during and after the operation. Current or past use of medicines with alpha 1a-adrenergic antagonist effect should be made known to the ophthalmic surgeon in advance of surgery. The potential benefit of stopping alpha 1 blocking therapy including antipsychotic therapy, prior to cataract surgery has not been established.

### Excipients

TREVICTA contains less than 1 mmol sodium (23 mg) per dose, i.e., essentially sodium-free.

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

Caution is advised when prescribing TREVICTA with medicines known to prolong the QT interval, e.g., class IA antidysrhythmics (e.g., quinidine, disopyramide) and class III antidysrhythmics (e.g., amiodarone, sotalol), some antihistaminics, some antibiotics (e.g., fluoroquinolones), some other antipsychotics and some antimalarials (e.g., mefloquine). This list is indicative and not exhaustive.

##### **Potential for TREVICTA to affect other medicines**

Paliperidone is not expected to cause clinically important pharmacokinetic interactions with medicines that are metabolised by cytochrome P450 isozymes.

Given the primary central nervous system (CNS) effects of paliperidone (see section 4.8), TREVICTA should be used with caution in combination with other centrally acting medicines, e.g., anxiolytics, most antipsychotics, hypnotics, opiates, etc. or alcohol.

Paliperidone may antagonise the effect of levodopa and other dopamine agonists. If this combination is deemed necessary, particularly in end-stage Parkinson's disease, the lowest effective dose of each treatment should be prescribed.

Because of its potential for inducing orthostatic hypotension (see section 4.4), an additive effect may be observed when TREVICTA is administered with other therapeutic agents that have this potential, e.g., other antipsychotics, tricyclics.

Caution is advised if paliperidone is combined with other with medicines products known to lower the seizure threshold (i.e., phenothiazines or butyrophenones, tricyclics or SSRIs, tramadol, mefloquine, etc.).

No interaction study between TREVICTA and lithium has been performed, however, a pharmacokinetic interaction is not likely to occur.

#### Potential for other medicines to affect TREVICTA

*In vitro* studies indicate that CYP2D6 and CYP3A4 may be minimally involved in paliperidone metabolism, but there are no indications *in vitro* nor *in vivo* that these isozymes play a significant role in the metabolism of paliperidone. Concomitant administration of oral paliperidone with paroxetine, a potent CYP2D6 inhibitor, showed no clinically significant effect on the pharmacokinetics of paliperidone.

Co-administration of oral paliperidone prolonged release once daily with carbamazepine 200 mg twice daily caused a decrease of approximately 37% in the mean steady-state  $C_{max}$  and AUC of paliperidone. This decrease is caused, to a substantial degree, by a 35% increase in renal clearance of paliperidone likely as a result of induction of renal P-gp by carbamazepine. A minor decrease in the amount of active substance excreted unchanged in the urine suggests that there was little effect on the CYP metabolism or bioavailability of paliperidone during carbamazepine co-administration. Larger decreases in plasma concentrations of paliperidone could occur with higher doses of carbamazepine. On initiation of carbamazepine, the dose of TREVICTA should be re-evaluated and increased if necessary. Conversely, on discontinuation of carbamazepine the dose of TREVICTA should be re-evaluated and decreased if necessary. Consideration should be given to the long-acting nature of TREVICTA.

### Concomitant use of TREVICTA with risperidone or oral paliperidone

Since paliperidone is the major active metabolite of risperidone, TREVICTA should not be co-administered with risperidone or with oral paliperidone formulation. Safety data involving concomitant use of TREVICTA with other antipsychotics is limited.

### Concomitant use of TREVICTA with psychostimulants

The combined use of psychostimulants (e.g. methylphenidate) with paliperidone can lead to extrapyramidal symptoms upon change of the doses of either or both treatments (see section 4.4).

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

### Pregnancy

There are no adequate data from the use of paliperidone during pregnancy.

Intramuscularly injected paliperidone palmitate and orally administered paliperidone were not teratogenic in animal studies, but other types of reproductive toxicity were seen (see section 5.3). Neonates exposed to paliperidone during the third trimester of pregnancy are at risk of adverse reactions including extrapyramidal and/or withdrawal symptoms that may vary in severity and duration following delivery. There have been reports of agitation, hypertonia, hypotonia, tremor, somnolence, respiratory distress, or feeding disorder. Consequently, newborns should be monitored carefully. TREVICTA should not be used during pregnancy unless clearly necessary.

Since paliperidone has been detected in plasma up to 18 months after a single dose of TREVICTA, consideration should be given to the long-acting nature of TREVICTA as maternal exposure to TREVICTA before and during pregnancy may lead to adverse reactions in the new-born baby.

## Breastfeeding

Paliperidone is excreted in the breast milk to such an extent that effects on the breastfed infant are likely if therapeutic doses are administered to breastfeeding women. Since paliperidone has been detected in plasma up to 18 months after a single dose administration of TREVICTA, consideration should be given to the long-acting nature of TREVICTA as breastfed infants may be at risk even from TREVICTA administration long before breastfeeding. TREVICTA should not be used while breastfeeding.

## Fertility

There were no relevant effects observed in the non-clinical studies.

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

TREVICTA may affect the ability to drive and use machines. Patients on treatment with TREVICTA should not drive and use machines until they know how treatment with TREVICTA affects them. Paliperidone can have nervous system and visual effects, such as sedation, somnolence, syncope, dizziness, agitation and blurred vision (see section 4.8).

### **4.8 Undesirable effects**

#### Summary of the safety profile

The most frequently observed adverse reactions reported in  $\geq 5\%$  of patients in two double-blind controlled clinical trials of TREVICTA were weight increased, upper respiratory tract infection, anxiety, headache, insomnia, and injection site reaction.

**Table 1: Adverse drug reactions reported with paliperidone and/or risperidone by frequency category estimated from subjects who received at least one injection of TREVICTA (PP3M) in the PP3M clinical trials**

The following terms and frequencies are applied: *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* ( $< 1/10\ 000$ ), and *not known* (cannot be estimated from the available data).

System organ class	Adverse Drug reaction				
	Frequency				
	Very Common	Common	Uncommon	Rare	Not Known <sup>a</sup>
Infections and Infestations	Upper respiratory tract infection	Urinary tract infection, influenza.	Pneumonia, bronchitis, respiratory tract infection, sinusitis, cystitis, ear infection, onychomycosis, cellulitis	Eye infection, tonsillitis, acrodermatitis	Subcutaneous abscess
Blood and lymphatic system disorders			neutropenia, white blood cell count decreased, anaemia		Eosinophil count increased

Immune System Disorders				Hypersensitivity	Anaphylactic reaction
Endocrine Disorders				Glucose urine present, Hyperprolactinaemia <sup>b</sup>	
Metabolism and nutrition disorders	Weight increased	Hyperglycaemia, weight decreased	Hyperinsulinaemia, increased appetite, decreased appetite, blood triglycerides increased, blood cholesterol increased	Polydipsia	Anorexia
Psychiatric disorders		Insomnia <sup>c</sup> , depression, anxiety.	Sleep disorder, agitation, libido decreased	Blunted affect, nightmare	Confusional state, anorgasmia, nervousness
Nervous system disorders		Parkinsonism <sup>d</sup> , akathisia <sup>d</sup> , sedation/somnolence, dizziness, tremor, headache	Psychomotor hyperactivity, dystonia <sup>d</sup> , dizziness postural, disturbance in attention, dyskinesia <sup>d</sup> , hypoaesthesia	Tardive dyskinesia, paraesthesia	Neuroleptic malignant syndrome, cerebral ischaemia, unresponsive to stimuli, loss of consciousness

					ness, depressed level of conscious- ness, diabetic coma, convulsion <sup>c</sup> , syncope, balance disorder, coordination abnormal, dysarthria, head titubation
Eye Disorders			Vision blurred, conjunctivitis	Lacrimation increased	Glaucoma, eye movement disorder, eye rolling, photophobia, dry eye, ocular hyperaemia
Ear and labyrinth disorders			Vertigo	Tinnitus	Ear pain
Cardiac disorders		Tachycardia	Atrioventricular block, conduction disorder,	Electrocardio g-ram abnormal	Sinus dysrhythmia

			electrocardiogram QT prolonged, postural orthostatic tachycardia syndrome, bradycardia, palpitations		
Vascular disorders		Hypertension	Hypotension, orthostatic hypotension.		Ischaemia, flushing
Respiratory, thoracic and mediastinal disorders		Pharyngolaryngeal pain, cough	Epistaxis, nasal congestion	Dyspnoea,	Hyperventilation, pneumonia aspiration, pulmonary congestion, respiratory tract congestion, rales, wheezing, dysphonia
Gastrointestinal disorders		Abdominal pain, vomiting, nausea, constipation, diarrhoea, dyspepsia, toothache	Abdominal discomfort gastroenteritis, dry mouth, flatulence.	Dysphagia, cheilitis	Intestinal obstruction, swollen tongue, faecal incontinence, faecaloma

Hepatobiliary disorders		Transaminases increased.	Gamma-glutamyl-transferase increased, hepatic enzyme increased.		
Skin and subcutaneous tissue disorders			Pruritus, rash, eczema	Erythema	Drug eruption, urticaria, hyperkeratosis, dry skin, skin discolouration, acne, seborrhoeic dermatitis, dandruff
Musculoskeletal and connective tissue disorders		Musculoskeletal pain, back pain, arthralgia	Blood creatine phosphokinase increased, muscle spasms, joint stiffness, muscular weakness		Rhabdomyolysis, posture abnormal, joint swelling, neck pain
Renal and urinary disorders			Dysuria	Pollakiuria	Urinary incontinence
Reproductive system		Amenorrhoea, menstrual disorder <sup>c</sup>	Erectile dysfunction, ejaculation		Breast engorgement, breast

and breast disorders			disorder, gynaecomastia, galactorrhoea, sexual dysfunction, breast pain, breast discomfort.		enlargement, vaginal discharge
General disorders and administration site conditions		Fatigue, injection-site reaction.	Face oedema, oedema <sup>c</sup> , pyrexia, chest pain, chest discomfort, asthenia, malaise	Body temperature increased,	Body temperature decreased, chills, gait abnormal, thirst, drug withdrawal syndrome

<sup>a</sup> The frequency of adverse reactions is qualified as “not known” because they were not observed in paliperidone palmitate 3-month injectable clinical trials.

<sup>b</sup> Refer to ‘Hyperprolactinaemia’ below.

<sup>c</sup> **Insomnia includes:** initial insomnia, middle insomnia; **Convulsion includes:** grand mal convulsion; **Oedema includes:** generalised oedema, oedema peripheral, pitting oedema  
**Menstrual disorder includes:** menstruation delayed, menstruation irregular, oligomenorrhoea.

<sup>d</sup> Refer to ‘Extrapyramidal symptoms’ below.

## Description of selected adverse reactions

### *Anaphylactic reaction*

Rarely, cases of anaphylactic reaction after injection with 1-monthly paliperidone palmitate injectable have been reported during post-marketing experience in patients who have previously tolerated oral risperidone or oral paliperidone (see section 4.4).

### *Injection site reactions*

In clinical trials of TREVICTA, 5.3% of subjects reported injection site related adverse reactions.

Based on the investigators' ratings, injection site reported reactions were absent or mild in  $\geq 95\%$  of the assessments and included local pain, induration, swelling and erythema which decreased in intensity over time. None of these events led to discontinuation of treatment.

### *Extrapyramidal symptoms (EPS)*

In the clinical trials of TREVICTA, akathisia, dyskinesia, dystonia, parkinsonism, and tremor were reported in 3.9%, 0.8%, 0.9%, 3.6%, and 1.4% of subjects, respectively.

Extrapyramidal symptoms (EPS) included a pooled analysis of the following terms: parkinsonism (includes extrapyramidal disorder, extrapyramidal symptoms, on and off phenomenon, Parkinson's disease, parkinsonian crisis, salivary hypersecretion, musculoskeletal stiffness, parkinsonism, drooling, cogwheel rigidity, bradykinesia, hypokinesia, masked facies, muscle tightness, akinesia, nuchal rigidity, muscle rigidity, parkinsonian gait, glabellar reflex abnormal, and parkinsonian rest tremor), akathisia (includes akathisia, restlessness, hyperkinesia, and restless leg syndrome), dyskinesia (dyskinesia, chorea, movement disorder, muscle twitching, choreoathetosis, athetosis, and myoclonus), dystonia (includes dystonia, cervical spasm, emprosthotonus, oculogyric crisis, oromandibular dystonia, risus sardonicus, tetany, hypertonia, torticollis, muscle contractions involuntary, muscle contracture, blepharospasm, oculogyration, tongue paralysis, facial spasm, laryngospasm, myotonia, opisthotonus, oropharyngeal spasm, pleurothotonus, tongue spasm, and trismus), and tremor.

### *Weight gain*

In the long-term randomised withdrawal study, abnormal increases of  $\geq 7\%$  in body weight from double-blind baseline to double-blind end point were reported for 10% subjects in the TREVICTA group and 1% subjects in the placebo group. Conversely, abnormal decreases in body weight ( $\geq 7\%$ ) from double-blind baseline to double-blind end point were reported for 1% subjects in the TREVICTA group and 8% subjects in the placebo group. The mean changes in body weight from double-blind baseline to double-blind end point were +0.94 kg and -1.28 kg for the TREVICTA and placebo groups, respectively.

### *Hyperprolactinaemia*

During the double-blind phase of the long-term randomised withdrawal study, elevations of prolactin to above the reference range ( $> 13.13$  ng/mL in males and  $> 26.72$  ng/mL in females) were noted in a higher percentage of males and females in the TREVICTA group than in the placebo group (9% vs. 3% and 5% vs. 1%, respectively). In the TREVICTA group, the mean change from double-blind baseline to double-blind end point was +2.90 ng/mL for males (vs. -10.26 ng/mL in the placebo group) and +7.48 ng/mL for females (vs. -32.93 ng/mL in the placebo group). One female (2.4%) in the TREVICTA group experienced an adverse reaction of amenorrhea, while no potentially prolactin related adverse reactions were noted among females in the placebo group. There were no potentially prolactin related adverse reactions among males in either group.

### Class effects

QT prolongation, ventricular dysrhythmias (ventricular fibrillation, ventricular tachycardia), sudden unexplained death, cardiac arrest, and Torsade de pointes may occur with antipsychotics.

Cases of venous thromboembolism, including cases of pulmonary embolism and cases of deep vein thrombosis, have been reported with antipsychotic medicines (frequency unknown).

### **Post-marketing data**

In addition to the adverse reactions reported during clinical studies and listed above, the following adverse reactions have been reported during postmarketing experience with paliperidone and/or risperidone.

The adverse reactions are presented based on spontaneous reporting rates.

**Table 2: Adverse Reactions Identified During Postmarketing Experience with Paliperidone and/or Risperidone Estimated from Spontaneous Reporting Rates with Paliperidone**

<b>Blood and lymphatic system disorders</b>	Agranulocytosis, Thrombocytopenia
<b>Endocrine disorders</b>	Inappropriate antidiuretic hormone secretion
<b>Metabolism and nutrition disorders</b>	Diabetes mellitus, Diabetic ketoacidosis, Hypoglycaemia Water intoxication
<b>Psychiatric disorders</b>	Catatonia, Mania, Somnambulism Sleep-related eating disorder
<b>Nervous system disorders</b>	Dysgeusia
<b>Eye disorders</b>	Floppy iris syndrome (intraoperative)
<b>Cardiac disorders</b>	Atrial fibrillation
<b>Vascular disorder</b>	Venous thrombosis, Pulmonary embolism
<b>Respiratory, thoracic and mediastinal disorders</b>	Sleep apnoea syndrome
<b>Gastrointestinal disorders</b>	Pancreatitis, Ileus
<b>Hepatobiliary disorders</b>	Jaundice
<b>Skin and subcutaneous tissue disorders</b>	Angioedema, Alopecia, Stevens-Johnson syndrome/Toxic epidermal necrolysis
<b>Renal and urinary disorders</b>	Urinary retention
<b>Pregnancy, puerperium and perinatal conditions</b>	Drug withdrawal syndrome neonatal
<b>Reproductive system and breast disorders</b>	Priapism
<b>General disorders and administration site conditions</b>	Hypothermia, Injection site abscess, Injection site cellulitis, Injection site hematoma; Injection site cyst, Injection site necrosis, Injection site ulcer

Undesirable effects noted with risperidone formulations

Paliperidone is the active metabolite of risperidone, therefore, the adverse reaction profiles of these compounds (including both the oral and injectable formulations) are relevant to one another.

In addition to the above adverse reactions, the following adverse reactions have been noted with the use of risperidone products and can be expected to occur with TREVICTA.

Nervous system disorders: cerebrovascular disorder

Respiratory, thoracic and mediastinal disorders: rales

General disorders and administration site conditions (observed with injectable formulation of risperidone): injection site necrosis, injection site ulcer.

**Table 3: Adverse drug reactions reported with paliperidone and/or risperidone by frequency category estimated from subjects who received at least one injection of PP1M in the PP1M clinical trials**

The following terms and frequencies are applied: *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* ( $< 1/10\ 000$ ), and *not known* (cannot be estimated from the available data).

System organ class	Adverse Drug reaction				
	Frequency				
	Very Common	Common	Uncommon	Rare	Not Known <sup>a</sup>
Infections and Infestations		Upper respiratory tract infection, urinary tract infection, influenza.	Pneumonia, bronchitis, respiratory tract infection, sinusitis, cystitis, ear infection, eye infection, tonsillitis, cellulitis, acrodermatitis, subcutaneous abscess	onychomycosis	
Blood and lymphatic system disorders			White blood cell count decreased, anaemia, eosinophil count increased	Neutropenia	

Immune System Disorders			Hypersensitivity		Anaphylactic reaction
Endocrine Disorders		Hyperprolactinaemia <sup>b</sup>			Glucose in urine
Metabolism and nutrition disorders		Hyperglycaemia, weight increased, weight decreased, blood triglycerides increased	Hyperinsulinaemia, increased appetite, anorexia, decreased appetite, blood cholesterol increased	Polydipsia	
Psychiatric disorders	Insomnia <sup>c</sup>	Agitation, depression, anxiety.	Sleep disorder, confusional state, libido decreased, nervousness, nightmare	Anorgasmia	Blunted affect
Nervous system disorders	Headache	Parkinsonism <sup>d</sup> , akathisia <sup>d</sup> , sedation/somnolence, dystonia <sup>d</sup> , dizziness, dyskinesia <sup>d</sup> , tremor	Tardive dyskinesia, convulsion <sup>c</sup> , syncope, Psychomotor hyperactivity, dizziness postural, disturbance in attention, dysarthria,	Neuroleptic malignant syndrome, cerebral ischaemia, unresponsive to stimuli, loss of consciousness, depressed	Diabetic coma, coordination abnormal, head titubation

			hypoesthesia, paraesthesia	level of conscious- ness, balance disorder	
Eye Disorders			Vision blurred, conjunctivitis, dry eye	Eye movement disorder, eye rolling, photophobia, lacrimation increased, ocular hyperaemia	Glaucoma
Ear and labyrinth disorders			Vertigo, tinnitus, ear pain		
Cardiac disorders		Bradycardia, tachycardia	Atrioventricular block, conduction disorder, electrocardiogra m QT prolonged, postural orthostatic tachycardia syndrome, electrocardiogra m abnormal, palpitations	Sinus dysrhythmia	

Vascular disorders		Hypertension	Hypotension, orthostatic hypotension.	Flushing	Ischaemia
Respiratory and mediastinal disorders		Cough, nasal congestion	Dyspnoea, pulmonary congestion, wheezing, pharyngolaryngeal pain, epistaxis	Respiratory tract congestion	Hyperventilation, pneumonia aspiration, rales, dysphonia
Gastrointestinal disorders		Abdominal pain, vomiting, nausea, constipation, diarrhoea, dyspepsia, toothache	Abdominal discomfort gastroenteritis, dry mouth, flatulence.	Swollen tongue, faecal incontinence, faecaloma dysphagia,	Intestinal obstruction, cheilitis
Hepatobiliary disorders		Transaminases increased.	Gamma-glutamyl-transferase increased, hepatic enzyme increased.		
Skin and subcutaneous tissue disorders		Rash	Urticaria, pruritus, eczema, dry skin erythema acne	Drug eruption, hyperkeratosis, dandruff	Skin discolouration, seborrhoeic dermatitis
Musculoskeletal and		Musculoskeletal pain, back pain	Muscle spasms, joint stiffness,	Blood creatine phosphokinase	Rhabdomyolysis, posture abnormal

connective tissue disorders			neck pain, arthralgia	fever increased, joint swelling, muscular weakness	
Renal and urinary disorders			Urinary incontinence, pollakiuria, dysuria		
Reproductive system and breast disorders			Erectile dysfunction, ejaculation disorder, amenorrhoea, menstrual disorder <sup>c</sup> , gynaecomastia, galactorrhoea, sexual dysfunction, vaginal discharge	Breast pain, breast discomfort, breast engorgement, breast enlargement	
General disorders and administration site conditions		Pyrexia, asthenia, fatigue, injection-site reaction	Face oedema, oedema <sup>c</sup> , gait abnormal, chest pain, chest discomfort, malaise, induration	Chills, body temperature increased, thirst	Body temperature decreased, drug withdrawal syndrome

- a The frequency of adverse reactions is qualified as “not known” because they were not observed in paliperidone palmitate 3-month injectable clinical trials.
- b Refer to ‘Hyperprolactinaemia’ below.
- c **Insomnia includes:** initial insomnia, middle insomnia; **Convulsion includes:** grand mal convulsion; **Oedema includes:** generalised oedema, oedema peripheral, pitting oedema  
**Menstrual disorder includes:** menstruation delayed, menstruation irregular, oligomenorrhoea.
- d Refer to ‘Extrapyramidal symptoms’ below.

### Reporting of suspected adverse reactions

Reporting suspected adverse reactions after authorisation of TREVICTA is important. It allows continued monitoring of the benefit/risk balance of the medicine. Health care providers are asked to report any suspected adverse reactions to SAHPRA via the "**6.04 Adverse Drug Reactions Reporting Form**," found online under SAHPRA's publications: <https://www.sahpra.org.za/Publications/Index/8>.

## **4.9 Overdose**

### Symptoms

In overdose, side effects can be precipitated and/or be of increased severity including those resulting from an exaggeration of paliperidone's known pharmacological effects, i.e., drowsiness and sedation, tachycardia and hypotension, QT prolongation, and extrapyramidal symptoms. Torsade de pointes and ventricular fibrillation have been reported in a patient in the setting of overdose with oral paliperidone. In the case of acute overdose, the possibility of multiple medicine involvement should be considered.

### Management

Consideration should be given to the long-acting nature of TREVICTA and the long elimination half-life of paliperidone when assessing treatment needs and recovery. There is no specific antidote to paliperidone. Symptomatic and supportive measures should be employed. Establish and maintain a clear airway and ensure adequate oxygenation and ventilation.

Cardiovascular monitoring should commence immediately and should include continuous electrocardiographic monitoring for possible dysrhythmias. Hypotension and circulatory collapse should be treated with appropriate measures such as

intravenous fluid and/or sympathomimetic medicines. In case of severe extrapyramidal symptoms, anticholinergic medicines should be administered. Close supervision and monitoring should continue until the patient recovers.

## **5. PHARMACOLOGICAL PROPERTIES**

### **5.1 Pharmacodynamic properties**

Pharmacological classification: A.2.6.5 Central nervous system depressants.

Miscellaneous structures.

Pharmacotherapeutic group: Psycholeptics, other antipsychotics. ATC code: N05AX13

TREVICTA contains a racemic mixture of (+)- and (-)-paliperidone.

Mechanism of action

Paliperidone is a selective blocking agent of monoamine effects, whose pharmacological properties are different from that of traditional neuroleptics.

Paliperidone binds strongly to serotonergic 5-HT<sub>2</sub>- and dopaminergic D<sub>2</sub>-receptors.

Paliperidone also blocks alpha 1-adrenergic receptors and slightly less,

H<sub>1</sub>-histaminergic and alpha 2-adrenergic receptors. The pharmacological activity of the (+)- and (-)-paliperidone enantiomers are qualitatively and quantitatively similar.

Paliperidone is not bound to cholinergic receptors. Even though paliperidone is a strong D<sub>2</sub>-antagonist, which is believed to relieve the symptoms of schizophrenia, it causes less catalepsy and decreases motor functions less than traditional neuroleptics.

Dominating central serotonin antagonism may reduce the tendency of paliperidone to cause extrapyramidal side effects.

## Clinical efficacy

### Summarised Clinical Data

The efficacy of TREVICTA in the maintenance treatment of schizophrenia in subjects who have been adequately treated for at least four months with 1-monthly paliperidone palmitate injectable and the last two doses of the same dosage strength was evaluated in one long-term randomised withdrawal double-blind, placebo-controlled study and one long-term double-blind, active-controlled, non-inferiority study. For both studies, the primary outcome was based on relapse.

Based on the final analysis (N = 305), 42 subjects (29.0%) in the placebo group and 14 subjects (8.8%) in the TREVICTA group had experienced a relapse event during the double blind phase. The hazard ratio was 3.81 (95% CI: 2.08, 6.99) indicating a 74% decrease in relapse risk with TREVICTA compared to placebo.

There was a significant difference ( $p < 0.0001$ ) between the two treatment groups in the time to relapse in favour of TREVICTA. The time to relapse of the placebo group (median 395 days) was significantly shorter than for the TREVICTA group (the median could not be estimated due to the low percentage of subjects with relapse [8.8%]).

## Paediatric population

The safety and efficacy of TREVICTA in children and adolescents < 18 years of age have not been established. No data are available. See section 4.2

## 5.2 Pharmacokinetic properties

### Absorption and distribution

Due to its extremely low water solubility, the 3-monthly formulation of paliperidone palmitate dissolves slowly after intramuscular injection before being hydrolysed to paliperidone and absorbed into the systemic circulation. The release of the active substance starts as early as day 1 and lasts for as long as 18 months.

The data presented are based on a population pharmacokinetic analysis. Following a single intramuscular dose of TREVICTA, the plasma concentrations of paliperidone gradually rise to reach maximum plasma concentrations at a median  $T_{max}$  of 30-33 days. Following intramuscular injection of TREVICTA at doses of 175-525 mg in the deltoid muscle, on average, an 11-12% higher  $C_{max}$  was observed compared with injection in the gluteal muscle. The release profile and dosing regimen of TREVICTA results in sustained therapeutic concentrations. The total exposure of paliperidone following TREVICTA administration was dose-proportional over a 175-525 mg dose range, and approximately dose-proportional for  $C_{max}$ . The mean steady-state peak:trough ratio for a TREVICTA dose was 1.6 following gluteal administration and 1.7 following deltoid administration.

The plasma protein binding of racemic paliperidone is 74%.

Following administration of TREVICTA, the (+) and (-) enantiomers of paliperidone interconvert, reaching an AUC (+) to (-) ratio of approximately 1.7-1.8.

#### Biotransformation and elimination

In a study with oral immediate release  $^{14}C$ -paliperidone, one week following administration of a single oral dose of 1 mg immediate release  $^{14}C$ -paliperidone, 59% of the dose was excreted unchanged into urine, indicating that paliperidone is not extensively metabolised in the liver. Approximately 80% of the administered radioactivity was recovered in urine and 11% in the faeces. Four metabolic pathways have been identified *in vivo*, none of which accounted for more than 10% of the dose: dealkylation, hydroxylation, dehydrogenation, and benzisoxazole scission. Although *in*

*in vitro* studies suggested a role for CYP2D6 and CYP3A4 in the metabolism of paliperidone, there is no evidence *in vivo* that these isozymes play a significant role in the metabolism of paliperidone. Population pharmacokinetics analyses indicated no discernible difference on the apparent clearance of paliperidone after administration of oral paliperidone between extensive metabolisers and poor metabolisers of CYP2D6 substrates. *In vitro* studies in human liver microsomes showed that paliperidone does not substantially inhibit the metabolism of medicines metabolised by cytochrome P450 isozymes, including CYP1A2, CYP2A6, CYP2C8/9/10, CYP2D6, CYP2E1, CYP3A4, and CYP3A5.

*In vitro* studies have shown that paliperidone is a P-gp substrate and a weak inhibitor of P-gp at high concentrations. No *in vivo* data are available and the clinical relevance is unknown.

Based on population pharmacokinetic analysis, the median apparent half-life of paliperidone following TREVICTA administration over the dose range of 175-525 mg ranged from 84-95 days following deltoid injections and 118-139 days following gluteal injections.

### Hepatic impairment

Paliperidone is not extensively metabolised in the liver. Although TREVICTA was not studied in patients with hepatic impairment, no dose adjustment is required in patients with mild or moderate hepatic impairment. In a study with oral paliperidone in subjects with moderate hepatic impairment (Child-Pugh class B), the plasma concentrations of free paliperidone were similar to those of healthy subjects. Paliperidone has not been studied in patients with severe hepatic impairment.

### Renal impairment

TREVICTA has not been systematically studied in patients with renal impairment. The disposition of a single oral dose of a paliperidone 3 mg prolonged release tablet was studied in subjects with varying degrees of renal function. Elimination of paliperidone decreased with decreasing estimated creatinine clearance. Total clearance of paliperidone was reduced in subjects with impaired renal function by 32% on average in mild ( $\text{CrCl} = 50$  to  $< 80$  mL/min), 64% in moderate ( $\text{CrCl} = 30$  to  $< 50$  mL/min), and 71% in severe ( $\text{CrCl} = 10$  to  $< 30$  mL/min) renal impairment, corresponding to an average increase in exposure ( $\text{AUC}_{\text{inf}}$ ) of 1.5, 2.6, and 4.8-fold, respectively, compared to healthy subjects.

### Elderly

Population pharmacokinetics analysis showed no evidence of age-related pharmacokinetics differences.

### Body mass index (BMI)/body weight

Lower  $C_{\text{max}}$  was observed in overweight and obese subjects. At apparent steady-state with TREVICTA, the trough concentrations were similar among normal, overweight, and obese subjects.

### Race

Population pharmacokinetics analysis showed no evidence of race related pharmacokinetics differences.

## Gender

Population pharmacokinetics analysis showed no evidence of gender related pharmacokinetics differences.

## Smoking status

Based on in vitro studies utilising human liver enzymes, paliperidone is not a substrate for CYP1A2; smoking should, therefore, not have an effect on the pharmacokinetics of paliperidone. Effect of smoking on the pharmacokinetics of paliperidone was not studied with TREVICTA. A population pharmacokinetic analysis based on data with oral paliperidone prolonged release tablets showed a slightly lower exposure to paliperidone in smokers compared with non-smokers. The difference is not likely to be of clinical relevance.

## 5.3 Preclinical safety data

Repeat-dose toxicity studies of intramuscularly injected paliperidone palmitate (the 1-monthly formulation) and orally administered paliperidone in rat and dog showed mainly pharmacological effects, such as sedation and prolactin-mediated effects on mammary glands and genitals. In animals treated with paliperidone palmitate an inflammatory reaction was seen at the intramuscular injection site. Occasionally abscess formation occurred.

In rat reproduction studies with oral risperidone, which is extensively converted to paliperidone in rats and humans, adverse effects were seen on the birth weight and survival of the offspring. No embryotoxicity or malformations were observed following intramuscular administration of paliperidone palmitate to pregnant rats up to the highest

dose (160 mg/kg/day) corresponding to 2.2 times the exposure level in humans at the maximum recommended dose of 525 mg. Other dopamine antagonists, when administered to pregnant animals, have caused negative effects on learning and motor development in the offspring.

Paliperidone palmitate and paliperidone were not genotoxic. In oral carcinogenicity studies of risperidone in rats and mice, increases in pituitary gland adenomas (mouse), endocrine pancreas adenomas (rat), and mammary gland adenomas (both species) were seen. The carcinogenic potential of intramuscularly injected paliperidone palmitate was assessed in rats. There was a statistically significant increase in mammary gland adenocarcinomas in female rats at 10, 30 and 60 mg/kg/month. Male rats showed a statistically significant increase in mammary gland adenomas and carcinomas at 30 and 60 mg/kg/month which is 0.6 and 1.2 times the exposure level at the maximum recommended human 525 mg dose. These tumours can be related to prolonged dopamine D2-antagonism and hyperprolactinemia. The relevance of these tumour findings in rodents in terms of human risk is unknown.

## **6. PHARMACEUTICAL PARTICULARS**

### **6.1 List of excipients**

Citric acid monohydrate

Polyethylene glycol 4000

Polysorbate 20

Sodium dihydrogen phosphate monohydrate

Sodium hydroxide (for pH adjustment)

Water for injection

## **6.2 Incompatibilities**

TREVICTA product must not be mixed with other medicinal products.

## **6.3 Shelf life**

2 years

## **6.4 Special precautions for storage**

TREVICTA does not require any special storage conditions.

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

Pre-filled syringe (cyclic-olefin-copolymer) with a plunger stopper, backstop, and tip cap (bromobutyl rubber) with a thin wall 22G 1½ inch (0.72 mm x 38.1 mm) safety needle and a thin wall 22G 1 inch (0.72 mm x 25.4 mm) safety needle.

Pack sizes:

Pack contains 1 pre-filled syringe and 2 needles

## **6.6 Special precautions for disposal and other handling**

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

## **7. HOLDER OF CERTIFICATE OF REGISTRATION**

JANSSEN PHARMACEUTICA (PTY) LTD

(Reg. No. 1980/011122/07)

2 Medical Road, Halfway House,

Midrand 1685, South Africa

MedInfo@its.jnj.com

**8. REGISTRATION NUMBERS**

TREVICTA 175 mg - 50/2.6.5/0699

TREVICTA 263 mg - 50/2.6.5/0700

TREVICTA 350 mg - 50/2.6.5/0701

TREVICTA 525 mg - 50/2.6.5/0702

**9. DATE OF FIRST AUTHORISATION**

01 December 2020

**10. DATE OF REVISION OF THE TEXT**

16 January 2023

## INSTRUCTIONS FOR USE AND HANDLING AND DISPOSAL

### TREVICTA

paliperidone palmitate

prolonged release

injectable suspension

Administer once every  
3 months



Shake syringe vigorously  
for at least 15 seconds



**For intramuscular injection only.**

**Do not** administer by any other route.

### Important

TREVICTA should be administered by a healthcare professional as a single injection. **Do not** divide dose into multiple injections.

TREVICTA is intended for intramuscular use only. Inject slowly, deep into the muscle taking care to avoid injection into a blood vessel.

Read complete instructions prior to use.

### Dosing

This medication should be administered **once every 3 months**.

## Preparation

Peel off tab label from the syringe and place in patient record.

TREVICTA requires **longer and more vigorous shaking** than the 1-month paliperidone palmitate injectable product. Shake the syringe vigorously, with the syringe tip pointing up, **for at least 15 seconds within 5 minutes prior to administration** (see Step 2).

## Thin Wall Safety

### Needle Selection

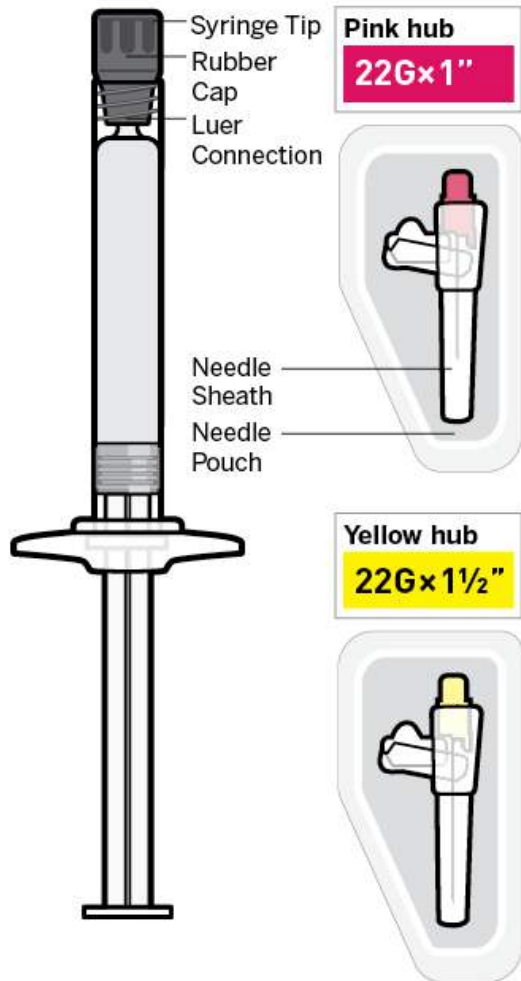
Thin wall safety needles are designed to be used with TREVICTA. Therefore, it is important to **only use the needles provided in the TREVICTA kit**.

## Dose pack contents

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**Prefilled  
Syringe**

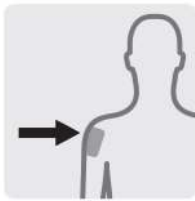
**Thin Wall  
Safety Needles**



## Select Needle

Needle selection is determined by  
injection area and patient weight

**If administering a  
Deltoid injection**



**If administering a  
Gluteal injection**



If patient weighs:

**Less than  
90kg**  
pink hub

**22G × 1"**

**90kg  
or more**  
yellow hub

**22G × 1½"**

**Regardless of  
patient weight:**

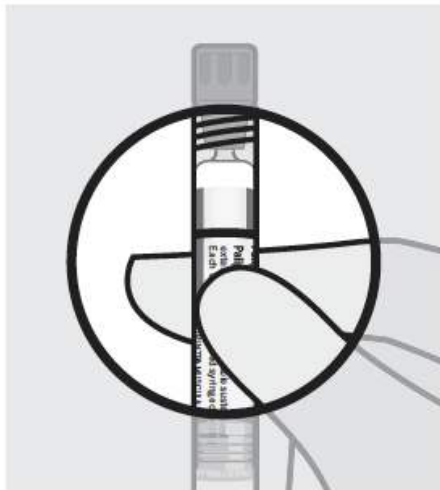
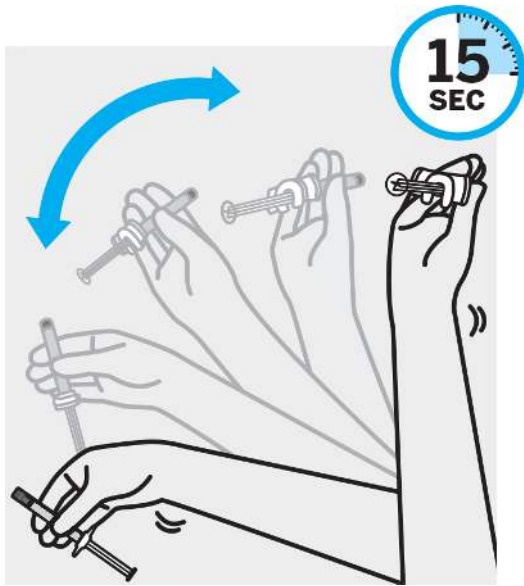
yellow hub

**22G × 1½"**



Immediately discard the unused needle in an approved sharps container. Do not save for future use.

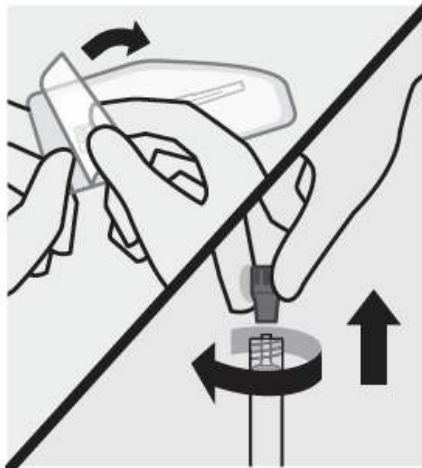
## Prepare for injection



## Check suspension

After shaking the syringe for 15 seconds, check the liquid in the viewing window. The suspension should appear uniform and milky white in colour.

It is also normal to see small air bubbles.

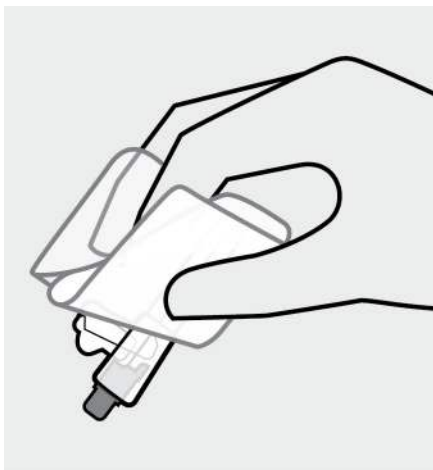


## **Open needle pouch and remove cap**

First, open needle pouch by peeling the cover back half way. Place on a clean surface.

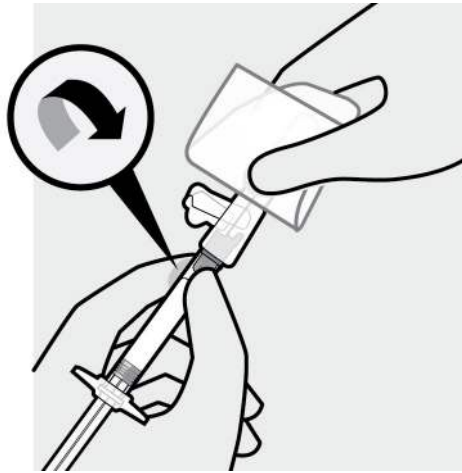
Then, holding the syringe upright,

twist and pull the rubber cap to remove.



## **Grasp needle pouch**

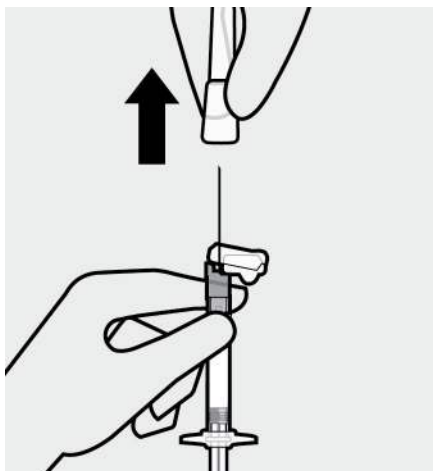
Fold back needle cover and plastic tray. Then, firmly grasp the needle sheath through the pouch, as shown.



## Attach needle

With your other hand, hold the syringe by the luer connection and attach it to the safety needle with a gentle clockwise twisting motion.

**Do not** remove the pouch until the syringe and needle are securely attached.

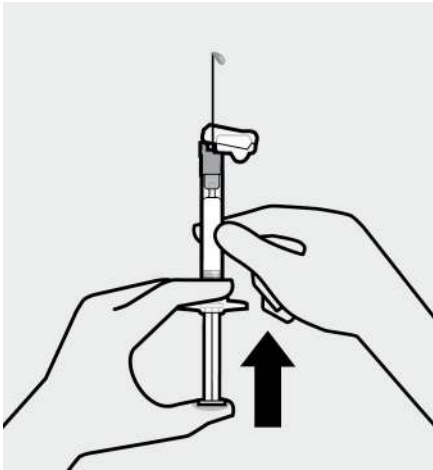


## Remove needle sheath

Pull the needle sheath away from

the needle in a straight motion.

**Do not** twist the sheath, as this may loosen the needle from the syringe.

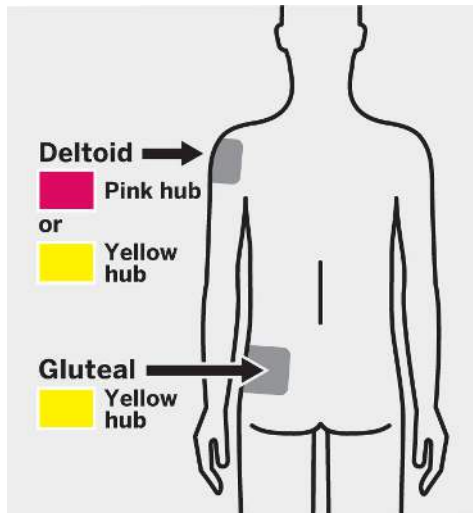


## **Remove air bubbles**

Hold the syringe upright and tap gently to make any air bubbles rise to the top.

Remove air by pressing the plunger rod upward carefully until a drop of liquid comes out of the needle tip.

**Inject**

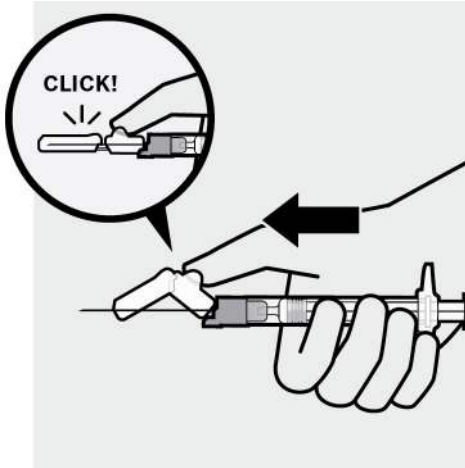


## **Inject dose**

**Slowly inject the entire contents of the syringe** intramuscularly, deep into the selected deltoid or gluteal muscle.

**Do not administer by any other route.**

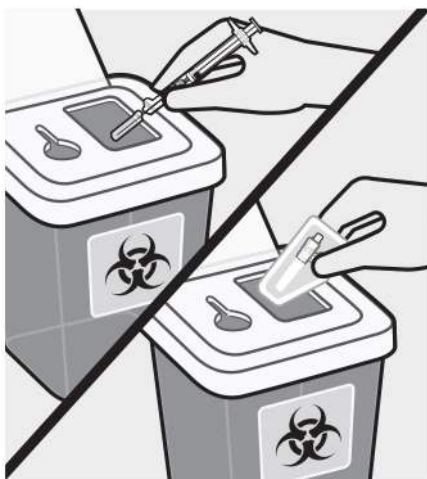
## After injection



### Secure needle

After the injection is complete, use your thumb or a flat surface to secure the needle in the safety device.

The needle is secure when a "click" sound is heard.



### Dispose properly

Dispose of the syringe and unused

needle in an approved sharps container.

Thin wall safety needles are designed specifically for use with TREVICTA. Unused needle should be discarded and not saved for future use.