PATIENT LEAFLET

Keppra
levetiracetam

250 mg; 500 mg; 1000 mg film-coated tablets

Read all of this leaflet carefully before you start taking this medicine.
- Keep this leaflet. You may need to read it again.
- If you have any questions, ask your doctor or pharmacist.
- This medicine has been prescribed for you personally or your child.
  Don't pass it on to other people - it may harm them even if their symptoms seem to be the same as yours.
- If any of the side effects gets serious, or if you notice any side effects not listed in this leaflet, please tell your doctor or pharmacist.

In this leaflet

1. What KEPPRA is and what it is used for

Keppra contains the active ingredient levetiracetam. It belongs to antiepileptic medicines, which are used to treat fits (*seizures*) in epilepsy.

On its own, Keppra is used to treat:
- partial onset seizure with or without secondary generalisation (the epilepsy form in which the fits initially affect only one side of the brain, but could thereafter extend to larger areas on both sides of the brain) - in adults and adolescents from 16 years of age with newly diagnosed epilepsy

As an add-on to other antiepileptic medicines, Keppra is used to treat:
- partial onset seizures with or without generalisation in adults, adolescents, children and infants from one month of age with epilepsy
- myoclonic seizures (short, shock-like jerks of a muscle or group of muscles) in adults and adolescents from 12 years of age with juvenile myoclonic epilepsy
- primary generalised tonic-clonic seizures (major fits, including loss of consciousness) in adults and adolescents from 12 years of age with idiopathic generalised epilepsy (the type of epilepsy that is thought to have a genetic cause)

2. Before you take KEPPRA

Don't take Keppra
- if you are allergic (*hypersensitive*) to levetiracetam, other pyrrolidone derivatives, or any other ingredients of Keppra (listed in Section 6)

➔ If you think any of these apply to you, don't take Keppra until you have checked with your doctor.

Take special care with Keppra

Before you take Keppra your doctor needs to know:
- if you have kidney problems or severe liver disease, your doctor may need to adjust your dose of Keppra
- if you are pregnant or breastfeeding, think you may be pregnant or are planning to have a baby (see *Pregnancy and breast-feeding* later in section 2)
- if you are taking any other medicines (see *Other medicines and Keppra*)
- if you are over 65
- if you have a family or medical history of heart problems, for example disturbance in heart rhythm (visible on an electrocardiogram) or if you are taking any other medicine that makes you prone to have disturbance in heart rhythm or unusual amount of salt in the body.

➔ Check with your doctor if you think any of these may apply to you. Your doctor will decide whether Keppra is suitable for you.

Keppra film-coated tablets are not recommended for children under 6 years.

Keppra oral solution is the preferred formulation for use in infants and children under the age of 6 years.

Keppra is not indicated in children and adolescents below 16 years on its own (as monotherapy) (see *What Keppra is and what it is used for* in Section 1).

While you are taking Keppra
- If you notice any slowdown in the growth or unexpected puberty development of your child, contact your doctor.
- A small number of people being treated with anti-epileptics such as Keppra have had thoughts of harming or killing themselves. If at any time you have these thoughts, immediately contact your doctor.
- If you notice any abnormal and aggressive behaviours, or if you or your family and friends notice important changes in mood or behaviour, immediately contact your doctor.
- Your seizures may rarely become worse or happen more often, mainly during the first month after starting the treatment or increase of the dose of Keppra. If you notice any of these symptoms while taking Keppra, immediately contact your doctor.

Conditions you need to look out for

Keppra can make some existing conditions worse, or cause serious side effects such as severe allergic reactions, serious skin reactions, Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS), sudden decrease of kidney function, encephalopathy (degenerative disease of the brain), depression or suicidal thoughts. You must look out for certain symptoms while you are taking Keppra, to reduce the risk of any problems. See '*Conditions you need to look out for*' in Section 4.

Other medicines and Keppra

Tell your doctor or pharmacist if you're taking any other medicines, if you've taken any recently, or if you start taking new ones. This includes medicines bought without a prescription.

Don't take macrogol (a drug used as laxative) for one hour before and one hour after taking Keppra as this may results in a loss of its effect.

You will be closely monitored if you are taking Keppra with:
- methotrexate (used to treat certain types of cancer)

Some other medicines may affect how Keppra works, or make it more likely that you'll have side effects. Keppra can also affect how some other medicines work. These include:
- probenecid (used to treat gout)

➔ Tell your doctor or pharmacist if you are taking any of these.

Pregnancy and breast-feeding

Keppra is not recommended for use during pregnancy.
- Tell your doctor if you are pregnant or planning to become pregnant.
- Use a reliable method of contraception while you're taking Keppra, to prevent pregnancy.
- If you do become pregnant during treatment with Keppra, tell your doctor.

Keppra can be used during pregnancy, only if after careful assessment it is considered necessary by your doctor. You should not stop your treatment without discussing this with your doctor. A risk of birth defects for your unborn child cannot be completely excluded. Keppra has shown unwanted reproductive effects in animal studies.

Breast-feeding is not recommended during treatment with Keppra. The ingredients can pass into your breast milk. Talk to your doctor about this.

Driving and using machines

Keppra can make you feel drowsy or sleepy and have other side effects that make you less alert. This is more likely at the beginning of treatment or after an increase in the dose.

➔ Don't drive or use machines unless you are sure you're not affected.

3. How to take Keppra

How much to take

Always take Keppra exactly as your doctor has told you to. Check with your doctor or pharmacist if you're not sure. Take the number of tablets/ the oral solution following your doctor's instructions.

Keppra must be taken twice a day, once in the morning and once in the evening, at about the same time each day.

Monotherapy

❖ Monotherapy in adults and adolescents (from 16 years of age)

— Keppra film-coated tablets

When you will first start taking Keppra, your doctor will prescribe you a lower dose during first 2 weeks of treatment, before giving you the lowest general dose.

The usual starting dose of Keppra is 250 mg twice daily.

Your doctor will increase your dose to 500 mg, twice daily after two weeks of treatment.

Your doctor may decide to further increase your dose to a maximum of 1500 mg, twice daily - depending on how you respond to the medicine.

— Keppra 100 mg/ml oral solution

Measure the appropriate dosage using the syringe included in the package.

➔ Ask your doctor or pharmacist if you have any questions on how to measure your dose accurately.

When you will first start taking Keppra, your doctor will prescribe you a lower dose during first 2 weeks of treatment (usually 2.5 ml (250 mg) twice daily), before giving you the lowest general dose.

General dose: Keppra is taken twice daily, in two equally divided doses, each individual dose being measured between 5 ml (500mg) and maximum of 15 ml (1500mg).

Add-on therapy

❖ Add-on therapy in adults and adolescents (12 to 17 years) weighing 50 kg or more

— Keppra film-coated tablets

The usual starting dose of Keppra is 500 mg twice daily.

Your doctor may decide to gradually increase your dose to a maximum of 1500 mg, twice daily - depending on how you respond to the medicine.

— Keppra 100 mg/ml oral solution

Measure the appropriate dosage using the syringe included in the package.

➔ Ask your doctor or pharmacist if you have any questions on how to measure your dose accurately.

The usual starting dose of Keppra is 5 ml (500mg) twice daily.

General dose: Keppra is taken twice daily, in two equally divided doses, each individual dose being measured between 5 ml (500mg) and 15 ml (1500mg).

❖ Add-on therapy in children 6 months and older

Keppra oral solution is the preferred formulation for use in infants and children under the age of 6 years.

Measure the appropriate dosage using the syringe size as advised by your doctor.

➔ Ask your doctor or pharmacist if you have any questions on how to measure the dose accurately.

General dose: Keppra is taken twice daily, in two equally divided doses, each individual dose being measured between 0.1 ml (10mg) and 0.3 ml (30mg), per kg bodyweight of the child (see table below for dose examples).

Dose in children 6 months and older

Weight	Starting dose: 0.1 ml/kg twice daily	Maximum dose: 0.3 ml/kg twice daily
6 kg	0.6 ml twice daily	1.8 ml twice daily
8 kg	0.8 ml twice daily	2.4 ml twice daily
10 kg	1 ml twice daily	3 ml twice daily
15 kg	1.5 ml twice daily	4.5 ml twice daily
20 kg	2 ml twice daily	6 ml twice daily
25 kg	2.5 ml twice daily	7.5 ml twice daily
From 50 kg	5 ml twice daily	15 ml twice daily

❖ Add-on therapy in infants (1 month to less than 6 months)

Measure the appropriate dosage using the syringe size as advised by your doctor.

➔ Ask your doctor or pharmacist if you have any questions on how to measure the dose accurately.

General dose: Keppra is taken twice daily, in two equally divided doses, each individual dose being measured between 0.07 ml (7mg) and 0.21 ml (21mg), per kg bodyweight of the infant. (see table below for dose examples).

Dose in infants (1 month to less than 6 months):

Weight	Starting dose: 0.07 ml/kg twice daily	Maximum dose: 0.21 ml/kg twice daily
4 kg	0.3 ml twice daily	0.85 ml twice daily
5 kg	0.35 ml twice daily	1.05 ml twice daily
6 kg	0.45 ml twice daily	1.25 ml twice daily
7 kg	0.5 ml twice daily	1.5 ml twice daily

Patients with kidney problems

Your doctor will decide on the correct dose of Keppra for you/your child depending on kidney function and the body weight.

How to take

Film-coated tablets

Swallow Keppra tablet(s) with a sufficient quantity of liquid (for example a glass of water). You can take Keppra with or without food. After oral administration the bitter taste of levetiracetam may be experienced.

Oral solution

After measuring the correct dose with an appropriate syringe, Keppra oral solution may be diluted in a glass of water or baby's bottle and can be taken with or without food. After oral administration the bitter taste of levetiracetam may be experienced.

Take the oral solution following your doctor's instructions.

A dosing of 300 ml amber glass bottle 10 ml graduated oral syringe is supplied with the pack so you can measure your dose accurately.

If you forget to take Keppra

Don't take an extra dose to make up for a missed dose. Contact your doctor if you have missed one or more doses.

If you take too much Keppra

If you take more Keppra than you should you may be more likely to feel drowsy, agitated or have other side effects such as decrease of alertness, aggression, shallow breathing and loss of consciousness (coma).

➔ Don't delay. Contact your doctor or your nearest hospital emergency department immediately. If possible, show them the Keppra pack.

Don't stop Keppra without advice

Take Keppra for as long as your doctor recommends. Don't stop unless your doctor advises you to. If you are suffering from epilepsy abruptly stopping your medicine may increase your fits (*seizures*).

If stopping treatment, Keppra should be discontinued gradually. Your doctor will instruct you about the gradual withdrawal of Keppra.

➔ Ask your doctor or pharmacist if you have any questions on the use of this product.

4. Possible side effects

Like all medicines, Keppra can cause side effects, but not everybody gets them.

Conditions you need to look out for

Severe allergic reactions. These are rare in people taking Keppra. Signs include:
- raised and itchy rash (hives)
- swelling, sometimes of the face or mouth (*angioedema*), causing difficulty in breathing
- collapse or loss of consciousness

Serious skin reactions. These are rare in people taking Keppra. Signs include:
- skin rash, which may blister, and looks like small targets (central dark spots surrounded by a paler area, with a dark ring around the edge - *erythema multiforme)*
- a widespread rash with blisters and peeling skin, particularly around the mouth, nose, eyes and genitals (*Stevens Johnson Syndrome)*
- extensive peeling of the skin on much of the body surface – *(toxic epidermal necrolysis)*

Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS). These are rare in people taking Keppra. Signs include:
- flu-like symptoms and a rash on the face followed by an extended rash with a high temperature
- enlarged lymph nodes
- increased levels of liver enzymes seen in blood tests and an increase in a type of white blood cell (*eosinophilia*)

Sudden decrease of kidney function. This is rare in people taking Keppra. Signs include:
- low urine volume
- tiredness, nausea, vomiting
- confusion
- swelling in the legs, ankles or feet

Encephalopathy (degenerative disease of the brain). This generally occur at the beginning of the treatment (few days to a few months) in people taking Keppra. Signs include:
- serious mental changes or signs of confusion
- feeling drowsy (somnolence)
- loss of memory (amnesia), memory impairment (forgetfulness)
- abnormal behaviour
- other neurological signs including involuntary or uncontrolled movements

Depression. This is common in people taking Keppra.

Suicidal thoughts. These are uncommon in people taking Keppra.

➔ Get medical help immediately if you get these symptoms.

Very common side effects

These may affect more than 1 in 10 people:
- inflammation of the nasopharynx (*nasopharyngitis*)
- feeling drowsy (*somnolence*)
- headache

Common side effects

These may affect up to 1 in 10 people:
- loss of appetite (*anorexia*) - especially if you take another drug called topiramate
- depression, hostility or aggression, anxiety, difficulty in sleeping, nervousness or irritability
- fits (*seizures*), balance disorder, dizziness, abnormal drowsiness (*lethargy*), tremor
- spinning sensation (*vertigo*)
- cough
- stomach pain, diarrhoea, indigestion, vomiting, feeling sick (*nausea*)
- rash
- feeling weak or lack of energy

Uncommon side effects

These may affect up to 1 in 100 people:
- decreased or increased weight
- suicide attempt and suicidal ideation, mental disorder, abnormal behaviour, seeing or hearing things that are not really there (hallucination), anger, confusion, panic attack, emotional instability/mood swings, agitation;
- loss of memory, memory impairment (forgetfulness), abnormal coordination or loss of coordinated bodily movements, tingling or numbness of the hands or feet, disturbance in attention (loss of concentration)
- double vision, blurred vision
- unusual hair loss or thinning, eczema, itching
- muscle weakness, muscle pain
- injury

Uncommon side effects that may show up in blood tests:
- decrease in number of blood platelets - cells that help blood to clot (*thrombocytopenia*)
- decrease in the number of white blood cells (*leucopenia*)
- elevated/abnormal values in a liver function test

Rare side effects

These may affect up to 1 in 1,000 people:
- infection
- allergic reactions (see 'Severe allergic reactions' earlier in Section 4)
- drug-induced hypersensitivity reaction that includes fever, rash, and blood abnormalities (see Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS) earlier in Section 4)
- suicide, personality disorders (behavioural problems), abnormal thinking, severe confusion (delirium)
- uncontrollable muscle spasms affecting the eyes, head, neck and body, uncontrollable movements, hyperactivity (unusually overactive),
- encephalopathy (degenerative disease of the brain) (see 'encephalopathy' earlier in Section 4)
- seizures may become worse or happen more often
- disturbance in heart rhythm (electrocardiogram)
- inflammation of the pancreas
- liver failure, inflammation of the liver
- erythema multiforme, Stevens Johnson Syndrome, toxic epidermal necrolysis (see 'Serious skin reactions' earlier in Section 4)
- acute kidney injury (see 'Sudden decrease of kidney function' earlier in Section 4)
- rhabdomyolysis (breakdown of muscle tissue) and associated blood creatine phosphokinase increase. Prevalence is significantly higher in Japanese patients when compared to non-Japanese patients
- limp or difficulty walking

Rare side effects that may show up in blood tests:
- decrease in number of all types blood cells
- decrease in sodium in the blood

➔ Tell your doctor or pharmacist if any of the side effects listed becomes severe or troublesome, or if you notice any side effects not listed in this leaflet.

5. How to store KEPPRA

Keep out of the sight and reach of children.

Don't take Keppra after the expiry date shown on the pack.

Store below 30°C.

Keep out of the reach and sight of children.

Do not use after the expiry date stated on the container.

For storage conditions of the diluted medicinal product, see incompatibilities
and use and handling

6. Further information

INCOMPATIBILITIES AND USE AND HANDLING

Keppra 100 mg/ml concentrate for solution for infusion

Table presents the recommended preparation and administration of levetiracetam concentrate to achieve a total daily dose of 500 mg, 1,000 mg, 2,000 mg, or 3,000 mg in two divided doses.

Dose	Withdrawal Volume	Volume of Diluent	Infusion time	Frequency of administration	Total Daily Dose
250 mg	2.5 ml (half 5 ml vial)	100 ml	15 minutes	Twice daily	500 mg/day
500 mg	5 ml (one 5 ml vial)	100 ml	15 minutes	Twice daily	1000 mg/day
1000 mg	10 ml (two 5 ml vials)	100 ml	15 minutes	Twice daily	2000 mg/day
1500 mg	15 ml (three 5 ml vials)	100 ml	15 minutes	Twice daily	3000 mg/day

This medicinal product is for single use only, any unused solution should be discarded.

This medicinal product must not be mixed with other medicinal products except those mentioned below.

Keppra concentrate was found to be physically compatible and chemically stable when mixed with the following diluents for at least 24 hours and stored in PVC bags at controlled room
temperature 15- 25°C.

Diluents:
- Sodium chloride (0.9%) injection
- Lactated Ringer's injection
- Dextrose 5% injection

Medicinal product with particulate matter or discolouration should not be used.

Any unused medicinal product or waste material should be disposed of in accordance with local requirements. Ask your pharmacist how to dispose of medicines no longer required. This will help to protect the environment.

- What Keppra contains

The active substance is levetiracetam.

Each film-coated tablet contains (250, 500 or 1000 mg) mg of levetiracetam.

Each 1 ml of oral solution contains 100 mg of levetiracetam.

Keppra concentrate for solution for infusion: Each ml contains 100 mg levetiracetam,

Each 5 ml vial contains 500 mg of levetiracetam.

The other ingredients are:
- List of Excipients of Keppra Film Coated Tablets

Tablet Core:

Sodium Croscarmellose,
Macrogol 6000,
Colloidal anhydrous silica,
Magnesium Stearate.

Film Coat:

Keppra 250mg: Opadry 85F20694, Polyvinyl alcohol-part. hydrolyzed, Titanium dioxide (E171), Macrogol/PEG 3350, Talc, FD&C blue #2/Indigo carmine aluminium lake (E132)

Keppra 500mg: Opadry 85F32004, Polyvinyl alcohol-part. hydrolyzed, Titanium dioxide (E171), Macrogol/PEG 3350, Talc, Iron oxide yellow (E172)

Keppra 1000mg: Opadry 85F18422, Polyvinyl alcohol-part. hydrolyzed, Titanium dioxide (E171), Macrogol/PEG 3350, Talc

What Keppra looks like and contents of the pack
- Keppra 250 mg film-coated tablets are blue, oblong, scored and debossed with the code ucb and 250 on one side.
- Keppra 500 mg film-coated tablets are yellow, oblong, scored and debossed with the code ucb and 500 on one side.
- Keppra 1000 mg film-coated tablets are white, oblong, scored and debossed with the code ucb and 1000 on one side.
- Keppra 100 mg/ml oral solution is a clear liquid.
- Keppra 100 mg/ml concentrate for solution for infusion is a clear, colourless, concentrate.

Keppra 250, 500 and 1000 mg film-coated tablets are packaged in aluminium/PVC blisters placed into cardboard boxes containing 100 film-coated tablets.

Keppra 100 mg/ml oral solution is packed in a 300 ml amber glass bottle (type III) with a white child resistant closure (polypropylene) in a cardboard box also containing a 10 ml graduated oral syringe (polypropylene, polyethylene) and an adaptor for the syringe (polyethylene).

Keppra 100 mg/ml concentrate for solution for infusion is packed in 5 ml glass vials (type I) closed by a Teflon-faced grey chlorobutyl rubber stopper or an uncoated grey bromobutyl rubber stopper and sealed with an aluminium/polypropylene flip cap. Each carton contains 10 vials.

Keppra Film Coated Tablets are Manufactured by:
UCB Pharma SA,
Chemin du Foriest, B-1420 Braine l'Alleud, Belgium
For GlaxoSmithKline Export Limited, UK

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To report Product Complaint/s or Adverse Event/s associated with the use of GSK product/s, please contact us via: gulf.safety@gsk.com.

THIS IS A MEDICAMENT
- Medicament is a product which affects your health and its consumption contrary to instructions is dangerous for you.
- Follow strictly the doctor's prescription, the method of use and the instructions of the pharmacist who sold the medicament.
- The doctor and the pharmacist are the experts in medicines, their benefits and risks.
- Do not by yourself interrupt the period of treatment prescribed.
- Do not repeat the same prescription without consulting your doctor.

Keep medicament out of the reach of children.

Council of Arab Health Ministers,
Union of Arab Pharmacists.