

Actrapid[®] 10mL vial

Protaphane[®] 10mL vial

Mixtard[®] 30/70 10mL vial

Mixtard[®] 50/50 10mL vial

Monotard[®] 10mL vial

Ultratard[®] 10mL vial

Human insulin (rys)

Consumer Medicine Information

What is in this leaflet

What human insulin is used for1

Before you use human insulin.2

Using human insulin.....3

While you are using human insulin.....4

Things to be careful of.....5

Things that may help your condition5

Side effects5

Storage.....5

Product Description.....6

This leaflet answers some common questions about human insulin 10mL vials. It does not contain all the available information. It does not take the place of talking to your doctor or pharmacist.

All medicines have risks and benefits. Your doctor has weighed the risks of you using human insulin against the benefits they expect it will have for you.

If you have any concerns about using this medicine, ask your doctor or pharmacist.

Keep this leaflet with the medicine. You may need to read it again.

What human insulin is used for

Human insulin is used to treat diabetes mellitus. Diabetes mellitus is a condition where your pancreas does not produce enough insulin to control your blood sugar (glucose) level. Extra insulin is therefore needed. Human insulin lowers your blood sugar level after injection.

Each of the following human insulins is available in a 10mL vial:

Actrapid[®] is Neutral Insulin Injection. It is a neutral solution of human insulin (rys). It appears clear and colourless.

Protaphane[®] is Isophane Insulin Injection. It is a neutral suspension of isophane human insulin (rys). When shaken gently, the liquid appears white and cloudy.

Mixtard[®] 30/70 is Biphasic Isophane Insulin Injection. It is a pre-mixed neutral suspension of human insulin (rys) consisting of neutral insulin injection (30%) and isophane insulin injection (70%). When shaken gently, the liquid appears white and cloudy.

Mixtard[®] 50/50 is Biphasic Isophane Insulin Injection. It is a pre-mixed neutral suspension of human insulin (rys) consisting of neutral insulin injection (50%) and isophane insulin injection (50%). When shaken gently, the liquid appears white and cloudy.

Monotard[®] is Insulin Zinc Suspension. It is a neutral suspension of amorphous (30%) and crystalline (70%) human insulin (rys). When shaken gently, the liquid appears white and cloudy.

Ultratard[®] is Insulin Zinc Suspension, crystalline. It is a neutral suspension of crystalline human insulin (rys). When shaken gently, the liquid appears white and cloudy.

The duration of action will vary according to the type of insulin, the dose, injection site, blood flow, temperature and level of physical activity.

Actrapid is also used by doctors to treat some people with diabetes in emergency situations. **Ask your doctor if you have any questions about why human insulin has been prescribed for you.**

Before you use human insulin

When you must not use it

Do not use human insulin if:

- you have very low blood sugar levels (hypoglycaemia). See section “If you use too much (overdose)”
- you are allergic to human insulin or any of the ingredients listed under each type of insulin at the end of this leaflet
- it is after the expiry date (“Expiry”) printed on the label and carton
- the packaging is torn, shows signs of tampering or does not look quite right
- you think it has been frozen or exposed to excessive heat
- the insulin in your Actrapid 10mL vial looks cloudy, has bits in it or is not clear
- the insulin in your Protaphane, Mixtard 30/70, Mixtard 50/50, Monotard or Ultratard 10mL vial does not become white and uniformly cloudy when shaken

Before you start to use it

Tell your doctor if you:

- are pregnant or planning to become pregnant
- are breast-feeding or planning to breast-feed
- plan to have surgery
- think you may have allergies to human insulin or any of the ingredients listed under each insulin type in the “Ingredients” section of this leaflet

Tell your doctor if you have or have had any medical conditions, especially the following:

- kidney problems
- liver problems
- gastrointestinal problems

If you have not told your doctor about any of the above, tell them before you use human insulin.

Taking other medicines

Your dose of insulin may need to change if you take other medicines. You should tell your doctor if you are currently taking any medicines, especially the following:

- oral hypoglycaemic agents - used for the treatment of non-insulin dependent diabetes (type 2 diabetes)
- monoamine oxidase inhibitors (MAOI) - used for the treatment of depression
- non-selective beta-blocking agents - used for the treatment of certain heart conditions and high blood pressure
- alpha-blocking agents - used for the treatment of high blood pressure and to relieve difficulty in passing urine caused by an enlarged prostate
- angiotensin converting enzyme (ACE) inhibitors - used for the treatment of certain heart conditions, high blood pressure or elevated protein/albumin in the urine
- salicylates e.g. aspirin - used to relieve pain and lower fever
- anabolic steroids and glucocorticoids (except topical administration) – used to treat inflammatory conditions
- oral contraceptives (“the pill”) - used for birth control
- thiazides, frusemide or ethacrynic acid - used for the treatment of high blood pressure or fluid retention (oedema)
- thyroid hormones - used for the treatment of malfunction of the thyroid gland

- sympathomimetics - used for the treatment of asthma
- sulphonamides – used to treat bacterial infections

Or other specific medicines including:

- danazol - used to treat certain female conditions
- oxymetholone – used to treat certain blood disorders
- octreotide - used to treat gastrointestinal endocrine tumours
- diazoxide - used for the treatment of high blood pressure
- nicotinic acid - used for the treatment of high cholesterol levels in the blood
- asparaginase - used to treat leukaemia and lymph gland tumours
- quinine – used for the prevention of malaria and the relief of muscle cramps
- quinidine – used for the control of heart problems
- growth hormone – used to treat persons with growth hormone deficiency

Tell your doctor if you are taking any other medicines, including any that you buy without a prescription from your pharmacy, supermarket or health food shop.

Immediately before you use it

Make sure that:

- on first use of a new vial, the protective colour-coded, tamper-proof plastic cap is in place, and is not loose or missing
- the insulin in your Actrapid 10mL vial is clear and colourless
- the insulin in your Protaphane, Mixtard 30/70, Mixtard 50/50, Monotard or

Ultratard 10mL vial looks uniformly white and cloudy

- your vial is not damaged

Do not use your human insulin 10mL vial if any of these happen.

Human insulin 10mL vials are for use by you alone to avoid the risk of passing on diseases.

Using human insulin

How to use human insulin 10mL vials

Carefully follow the advice from your doctor and your diabetes team regarding type of insulin, dosage and time of administration, blood sugar monitoring, diet and exercise in order to achieve good control of your diabetes.

Your doctor may also want you to use another insulin.

Changing to human insulin

An adjustment in dosage may be necessary when a switch is made from beef insulin to human insulin. If an adjustment is needed, it may occur with the first dose or during the first several weeks or months. **Do not change dosage or preparation except on your doctor's advice.**

A few patients have reported that after being transferred to human insulin, the early warning symptoms for hypoglycaemia (low blood glucose) were less pronounced than they were with animal source insulins. The character and intensity of these warning symptoms may also change during periods of tight blood glucose control, for instance during intensified insulin treatment.

When to use it

Your doctor will tell you when and how often to inject the insulin. If you are using Actrapid or Mixtard insulins, it is

recommended that you eat a meal or a snack containing carbohydrate within 30 minutes of the injection.

How much to use

Your doctor will tell you how much insulin to inject each time.

How to use it

- You need to use U100 insulin syringes.
- Make sure you are using the correct type and strength of insulin.
- You should inject human insulin under the skin (subcutaneous injection) as shown to you by your doctor or diabetes educator.
- You will feel the effect more quickly if the insulin is injected into your abdomen; however, you can also inject into your thigh, buttock or upper arm.
- The best place to inject longer-acting insulin (Protaphane, Monotard and Ultratard) is in the thigh.
- Remember to change your injection site regularly as shown to you by your doctor or diabetes educator.
- In an emergency, the insulin contained within Actrapid 10mL vial is suitable for intramuscular administration under medical guidance. In an emergency, the insulin contained within Actrapid 10mL vial is also suitable for intravenous administration, but only if administered by a physician. **Discard the vial after emergency use.**
- In an emergency, the insulins contained within Protaphane, Mixtard 30/70 and Mixtard 50/50 10mL vials are suitable for intramuscular administration under medical guidance. **Discard the vial after emergency use.**
- Do not use these human insulin 10mL vials with insulin pumps.

Insulin can either be clear (insulin solution) or cloudy (insulin suspension). Treatment with long-acting cloudy insulin may be supplemented by short-acting clear insulin given separately in accordance with your doctor's advice.

If you use only one insulin type:

If you are using cloudy insulin - just before use, roll the vial between your hands until the liquid is white and uniformly cloudy.

Draw a volume of air into the syringe equal to the dose of insulin to be injected. Inject the air into the vial. Turn the vial and syringe upside down and withdraw the correct insulin dose into the syringe. Then pull the needle out of the vial. Expel any air from the syringe and check that the dose is correct.

If you mix two insulin types:

Just before use, roll the vial of cloudy (longer acting) insulin between your hands until the liquid is white and uniformly cloudy.

Draw a volume of air into the syringe equal to the dose of cloudy insulin. Inject the air into the vial of cloudy insulin and take out the needle.

Draw a volume of air into the syringe equal to the dose of clear insulin. Inject the air into the vial of clear insulin. Turn the vial and syringe upside down and withdraw the dose of clear insulin prescribed. Expel any air from the syringe and check that the dose is correct.

Insert the needle into the vial of cloudy insulin and withdraw the prescribed dose. Expel any air and check the dose.

Always mix the two insulins in the same order as described above and inject immediately.

How to inject

- Pinch your skin between two fingers, push the needle into the skin fold and inject the insulin under the skin.
- After the injection, leave the needle under the skin for at least 6 seconds to make sure you have injected all the insulin.
- If blood appears after the needle has been withdrawn, press the injection site lightly with a finger.

Do not inject cloudy insulins into a vein.

After you use it

Dispose of your insulin syringes safely into a yellow plastic sharps container.

Do not refill human insulin 10mL vials.

When you are using human insulin 10mL vials, use a new syringe for each injection.

How long to use it

Do not stop using human insulin unless your doctor tells you to.

If you use too much (overdose)

Your blood sugar level may become too low (hypoglycaemia). This can also happen if you miss a meal or exercise more than usual.

The first symptoms of hypoglycaemia can come on suddenly. They may include: cold sweat, cool pale skin, fatigue, nervousness or tremor, anxious feeling, unusual tiredness and weakness, confusion, difficulty in concentration, excessive hunger, temporary vision changes, headache, nausea or rapid heart beat.

What to do in case of hypoglycaemia

If you experience any of the symptoms mentioned above you should immediately take sugary food or drink e.g. lollies, biscuits or fruit juice. **So always carry one of these with you.**

Tell your relatives, friends and close workmates that you have diabetes and how they can help you if you get a severe hypoglycaemic reaction. Make sure they know you should not be given anything to eat or drink if you are unconscious because you could choke.

If you are unconscious, you should be turned on your side and your relatives, friends or workmates should get medical help immediately.

An injection of the hormone glucagon may speed up recovery from unconsciousness. This can be given by a relative or friend who has been instructed in its use. If glucagon is used, sugary food or drink should be given by mouth as soon as you are conscious again. If you do not feel better after this, you should contact your doctor, diabetes educator or the closest hospital. If you do not respond to glucagon treatment, you will have to be treated in a hospital.

See your doctor if you have had repeated hypoglycaemic reactions or one reaction which led to unconsciousness, as your insulin dose may need to be changed.

If severe hypoglycaemia is not treated, it can cause brain damage and death.

If you forget to use it

If you realise you have missed a dose you should check your blood sugar level. If you repeatedly use less insulin than you need, your blood sugar level may become unusually high (hyperglycaemia). This can also

happen if you are sick or if you eat much more than usual.

The symptoms of unusually high blood sugar levels will appear gradually. They include: increased urination, thirst, loss of appetite, nausea, vomiting, drowsiness (fatigue), flushed dry skin, dry mouth and acetone breath.

What to do in case of hyperglycaemia

If you recognise any of the symptoms mentioned above, you should check your blood sugar level and test your urine for ketones as soon as possible. These symptoms may indicate that you have a condition called ketoacidosis. **Contact your doctor immediately as this condition is critical and if untreated may result in coma and death.**

While you are using human insulin

Things you must do

Make sure that you tell every doctor or health care professional who is treating you that you have diabetes and are using insulin. If your child has diabetes it is important to tell their carers.

Measure your blood sugar level regularly.

When driving or operating machines

For people with diabetes driving and operating heavy machinery is generally safe. However your ability to concentrate or react may be reduced if you have hypoglycaemia. Please keep this in mind in all situations where you might put yourself and others at risk (e.g. driving a car or operating machinery).

Make sure that you have sugary food or drink easily available in the car or workplace. If

practical, check your blood sugar level before driving or operating heavy machinery.

You should contact your doctor if you have:

- frequent episodes of hypoglycaemia
- reduced or absent warning signs of hypoglycaemia

When you are sick

Illness (especially with fever, infection, nausea or vomiting) may cause your insulin needs to change. Even if you are not eating you still require insulin. **See your doctor or diabetes educator to develop an insulin plan for those times when you are sick.**

If you have developed problems with your kidneys or your liver your doctor may lower your insulin dosage.

When you are pregnant or breast-feeding

If you are pregnant or planning to become pregnant you should consult your doctor immediately to discuss the control of your diabetes and insulin requirements as these may change during pregnancy. Breast-feeding during insulin treatment should not harm your baby. Your insulin dosage and diet may need to change.

Things you must not do

Do not give human insulin to anyone else, even if they have the same condition as you.

Do not use human insulin to treat any other complaints.

Do not stop taking human insulin without checking with your doctor.

Things to be careful of

When you are drinking alcohol

Be careful when you drink alcohol. Alcohol (including beer

and wine) may lead to low blood sugar levels (hypoglycaemia). The early warning symptoms of hypoglycaemia may not be noticed and go untreated if you have had too much alcohol. **Never drink alcohol on an empty stomach.**

When you are travelling

The time differences within and between countries may mean that you have to take your insulin and meals at different times than usual. **Make sure you consult your doctor or diabetes team if you are planning to travel.**

Things that may help your condition

People with diabetes should lead a healthy lifestyle.

Diet

Insulin is essential to keep the blood sugar levels within acceptable limits. Regular meals and a balanced diet are important factors in the management of diabetes. It is important that you discuss a suitable diet plan with your doctor or diabetes team.

Smoking

Smoking may increase the chance of complications with your diabetes.

Your doctor and diabetes team can give you information on healthy living for people with diabetes.

Side effects

All medicines can have side effects. Sometimes they are serious, most of the time they are not. You may need medical treatment if you get some of the side effects.

Hypoglycaemia

Human insulin may cause **hypoglycaemia** - see section "If you use too much (overdose)".

Allergy

Some people may notice redness, swelling and itching at the site of injection (**local allergy**). Usually these symptoms disappear within a few weeks during continued use.

If the symptoms do not disappear, spread to other parts of your body or if you suddenly feel sick (i.e. sweating, vomiting, difficulty breathing, rapid heart beat, feeling dizzy) you should contact your doctor immediately. You may have a **general allergic reaction** which is rare but could be serious.

Other

When you first start your insulin treatment you may get visual problems or swollen hands and feet.

If you inject too often in the same site, this may result in skin changes (called lipodystrophy). To avoid this, you should change your injection site regularly as shown to you by your doctor or diabetes educator.

You should tell your doctor or pharmacist as soon as possible if you notice any side effects or do not feel well while you are using human insulin.

Ask your doctor or pharmacist to answer any questions you have.

Storage

Vials that are **not being used** should be stored between 2°C and 8°C in a refrigerator (not too near the freezer section). Protect the insulin in the 10mL vials from light by keeping them in their cartons when not in use.

Vials that **you are using** do not need to be kept in a refrigerator. You can use them up to 4 weeks

after taking them out of the refrigerator if kept below 25°C. **Discard the vial after 4 weeks even if there is still some insulin left in it.**

Vials must not be frozen, or exposed to heat or direct sunlight.

Never use insulin after the expiry date printed on the label and carton.

Never use Actrapid 10mL vials if the solution is not clear and colourless.

Never use Protaphane, Mixtard 30/70, Mixtard 50/50, Monotard or Ultratard 10mL vials if the suspension does not become white and uniformly cloudy after shaking.

Keep out of the reach of children.

Product Description

What it looks like

Actrapid is a clear, colourless solution for subcutaneous injection. Actrapid 10mL vial is a glass vial.

Protaphane, Mixtard 30/70, Mixtard 50/50, Monotard and Ultratard are white, cloudy suspensions for subcutaneous injection. Protaphane, Mixtard 30/70, Mixtard 50/50, Monotard and Ultratard 10mL vials are glass vials.

Ingredients

Human insulin (rys) is characterised by being identical to natural human insulin. The abbreviation "rys" indicates the method of genetic engineering used to manufacture the insulin.

Actrapid[®] is a neutral solution of human insulin (rys) 100 IU/mL. Also contains: glycerol, meta-cresol, zinc chloride, water for injections. Hydrochloric acid and sodium hydroxide are used to adjust the pH.

Protaphane[®] is a neutral suspension of isophane human insulin (rys) 100 IU/mL. Also contains: glycerol, meta-cresol, phenol, dibasic sodium phosphate dihydrate, zinc chloride, protamine sulfate, water for injections. Hydrochloric acid and sodium hydroxide are used to adjust the pH.

Mixtard[®] 30/70 is a pre-mixed neutral suspension of human insulin (rys) 100 IU/mL, consisting of neutral insulin injection (30%) and isophane insulin injection (70%). Also contains: glycerol, meta-cresol, phenol, dibasic sodium phosphate dihydrate, zinc chloride, protamine sulfate, water for injections. Hydrochloric acid and sodium hydroxide are used to adjust the pH.

Mixtard[®] 50/50 is a pre-mixed neutral suspension of human insulin (rys) 100 IU/mL, consisting of neutral insulin injection (50%) and isophane insulin injection (50%). Also contains: glycerol, meta-cresol, phenol, dibasic sodium phosphate dihydrate, zinc chloride, protamine sulfate, water for injections. Hydrochloric acid and sodium hydroxide are used to adjust the pH.

Monotard[®] is a neutral suspension of amorphous (30%) and crystalline (70%) human insulin (rys) 100 IU/mL. Also contains: methyl hydroxybenzoate, sodium acetate, sodium chloride, zinc chloride, zinc acetate, water for injections. Hydrochloric acid and sodium hydroxide are used to adjust the pH.

Ultratard[®] is a neutral suspension of crystalline human insulin (rys) 100 IU/mL. Also contains: methyl hydroxybenzoate, sodium acetate, sodium chloride, zinc chloride, water for injections. Hydrochloric acid and sodium hydroxide are used to adjust the pH.

Manufacturer

Human insulin 10mL vials are made in Denmark and supplied in Australia by:

Novo Nordisk Pharmaceuticals Pty Ltd

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Protaphane 10mL vial:
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Mixtard 30/70 10mL vial:
AUST R 54654

Mixtard 50/50 10mL vial:
AUST R 47439

Monotard 10mL vial:
AUST R 34337

Ultratard 10mL vial:
AUST R 34351

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