
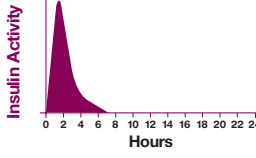




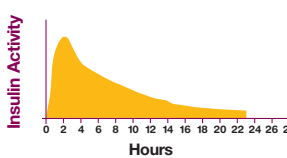




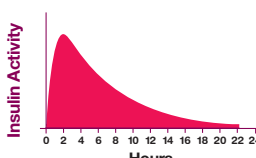




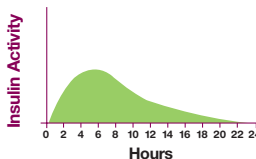





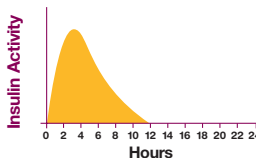




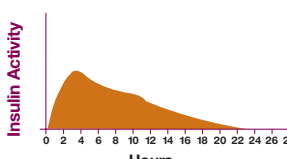





Lilly's range of insulins has been designed to control meal-time and background blood glucose levels to suit patients' individual needs:



Insulin		Type	Time-action characteristics Exact time-action profile may vary with patient and injection site	Vial	Cartridge	KwikPen
Insulin Analogues	 insulin lispro (rDNA origin) injection	Rapid-acting analogue		 10ml Vial	 3ml Cartridge	 Humalog KwikPen
	 25% insulin lispro (rDNA origin) injection 75% insulin lispro protamine suspension	Analogue mixture		 10ml Vial	 3ml Cartridge	 Humalog Mix25 KwikPen
	 50% insulin lispro (rDNA origin) injection 50% insulin lispro protamine suspension	Analogue mixture		N/A	 3ml Cartridge	 Humalog Mix50 KwikPen
Human Insulin	 isophane human insulin (prb) 	Isophane		 10ml Vial	 3ml Cartridge	 Humulin I KwikPen
	 human insulin (prb) 	Soluble		 10ml Vial	 3ml Cartridge	N/A
	 human insulin (prb) 30% soluble insulin 70% isophane insulin 	30/70 mixture		 10ml Vial	 3ml Cartridge	 Humulin M3 KwikPen

 All Lilly pens are recommended for use with BD Micro-Fine+ 4mm, 5mm and 8mm Pen Needles

Lilly 3ml insulin cartridges are compatible with Lilly reusable pens as well as the Owen Mumford Autopen® Classic

To access a wide range of information and resources to support both you and your patients, please visit: [www.lillydiabetes.co.uk](http://www.lillydiabetes.co.uk)



HUMULIN\* VIAL, CARTRIDGE, AND KWIKPEN\*

HUMULIN IS HUMAN INSULIN (PRB)

**Presentation** Humulin S is a sterile solution of 100IU/ml human insulin available as either 10ml vial or 3ml cartridge. Humulin I is a sterile suspension of 100IU/ml isophane human insulin available as either 10ml vial, 3ml cartridge, or 3ml KwikPen. Humulin M3 is a sterile suspension of 100IU/ml human insulin in the proportion of 30% soluble insulin and 70% isophane insulin available as either 10ml vial, 3ml cartridge, or 3ml KwikPen. **Uses** Treatment of patients with diabetes mellitus who require insulin for the maintenance of glucose homeostasis. **Dosage and Administration** All Humulin preparations should be given by subcutaneous injection. Only Humulin S may be given intravenously. *Resuspension* Humulin S does not require resuspension. Humulin I and Humulin M3 require resuspension immediately before use. Please see Summaries of Product Characteristics or Patient Information Leaflets for details on how to do this. *Mixing of insulins (vials only):* Humulin S may be administered in combination with Humulin I. The shorter-acting insulin (Humulin S) should be drawn into the syringe first, to prevent contamination of the vial by the longer-acting preparation (Humulin I). It is advisable to inject immediately after mixing. **Warnings and Special Precautions** Some patients taking human insulin may require a change in dosage from that used with animal-source insulins. If an adjustment is needed, it may occur with the first dose or during the first several weeks or months. Treatment with human insulin may cause formation of antibodies, but titres of antibodies are lower than those to purified animal insulin.

Prices (Humulin)

- £15.68 - 1 X 10ml vials Humulin S
- £19.08 - 5 X 3ml cartridges Humulin S
- £15.68 - 1 X 10ml vials Humulin I
- £19.08 - 5 X 3ml cartridges Humulin I
- £21.70 - 5 X 3ml Humulin I KwikPens
- £15.68 - 1 X 10ml vials Humulin M3
- £19.08 - 5 X 3ml cartridges Humulin M3
- £21.70 - 5 X 3ml Humulin M3 KwikPens

Product Licence Numbers

- Humulin S: 00006/0216 and 0242
- Humulin I: 00006/0228 and 0257
- Humulin M3: 00006/0233 and 0260
- Humulin I KwikPen: 00006/0338
- Humulin M3 KwikPen: 00006/0341

\*HUMULIN (human insulin [prb]) and KWIKPEN are trademarks of Eli Lilly and Company.

HUMALOG\* VIAL, CARTRIDGE, AND KWIKPEN\*

HUMALOG IS INSULIN LISPRO (HUMAN INSULIN ANALOGUE)

**Presentation** Humalog is a sterile solution of 100U/ml insulin lispro available as either 10ml vial, 3ml cartridge, or 3ml KwikPen. **Uses** Treatment of adults and children with diabetes mellitus who require insulin for the maintenance of normal glucose homeostasis. Humalog is also indicated for the initial stabilisation of diabetes mellitus. **Dosage and Administration** Humalog may be given shortly before meals and, when necessary, soon after meals. Humalog should be given by subcutaneous injection or by continuous subcutaneous infusion pump. If necessary, Humalog may also be administered intravenously, for example, for the control of blood glucose levels during ketoacidosis, acute illness, or perioperatively. Humalog takes effect rapidly (approximately 15 minutes) and has a shorter duration of activity (2 to 5 hours) as compared with soluble insulin. **Warnings and Special Precautions** *Usage in pregnancy:* Data on a large number of exposed pregnancies do not indicate any adverse effect of insulin lispro on pregnancy or on the health of the foetus/newborn. Insulin lispro should be used in children only when an advantage is expected compared to soluble insulin, for example, in the timing of the injection in relation to meals.

Prices (Humalog)

- £16.61 - 1 X 10ml vials
- £28.31 - 5 X 3ml cartridges
- £29.46 - 5 X 3ml Humalog KwikPens

Marketing Authorisation Numbers

- Humalog vial: EU/1/96/007/002
- Humalog cartridge: EU/1/96/007/004
- Humalog KwikPen: EU/1/96/007/031

\*HUMALOG (insulin lispro) and KWIKPEN are trademarks of Eli Lilly and Company.

HUMALOG MIX25\* VIAL, CARTRIDGE, AND KWIKPEN\*

HUMALOG MIX50\* CARTRIDGE, AND KWIKPEN

HUMALOG IS INSULIN LISPRO (HUMAN INSULIN ANALOGUE)

**Presentation** Humalog Mix25 is a white, sterile suspension of 100U/ml 25% insulin lispro solution and 75% insulin lispro protamine suspension available as either 10ml vial, 3ml cartridge, or 3ml KwikPen. Humalog Mix50 is a white, sterile suspension of 100U/ml 50% insulin lispro solution and 50% insulin lispro protamine suspension available as either 3ml cartridge or 3ml KwikPen. **Uses** Treatment of patients with diabetes mellitus who require insulin for the maintenance of normal glucose homeostasis. **Dosage and Administration** Humalog Mix25 or Humalog Mix50 may be given shortly before meals and, when necessary, can be given soon after meals. Humalog Mix25 or Humalog Mix50 should only be given by subcutaneous injection. The rapid onset and early peak of activity of Humalog itself is observed following the subcutaneous administration of Humalog Mix25 or Humalog Mix50. The duration of action of the insulin lispro protamine suspension component is similar to that of a basal insulin. **Warnings and Special Precautions** *Usage in pregnancy:* Data on a large number of exposed pregnancies do not indicate any adverse effect of insulin lispro on pregnancy or on the health of the foetus/newborn. Administration of insulin lispro in children should be considered only in case of an expected benefit when compared to soluble insulin.

Prices (Mix25/Mix50)

- £16.61 - 1 X 10ml Mix25 vial
- £29.46 - 5 X 3ml Mix25 cartridges
- £30.98 - 5 X 3ml Mix25 KwikPens
- £29.46 - 5 X 3ml Mix50 cartridges
- £30.98 - 5 X 3ml Mix50 KwikPens

Marketing Authorisation Numbers

- Humalog Mix25 vial: EU/1/96/007/005
- Humalog Mix25 cartridge: EU/1/96/007/008
- Humalog Mix50 cartridge: EU/1/96/007/006
- Humalog Mix25 KwikPen: EU/1/96/007/033
- Humalog Mix50 KwikPen: EU/1/96/007/035

\*HUMALOG MIX25, HUMALOG MIX50 (insulin lispro), and KWIKPEN are trademarks of Eli Lilly and Company.

LILLY INSULINS GENERAL INFORMATION

See Summaries of Product Characteristics for additional information, including time-action profiles of all formulations.

**Dosage and Administration (general)** The dosage or type of insulin should be determined according to the requirements of the patient. The time course of action of any insulin may vary considerably in different individuals or at different times in the same individual. Vials are packed with instructions regarding dose preparation and administration, and these should be carefully followed. Lilly insulin cartridges are to be used with a CE marked pen according to the instructions provided by the device manufacturer. Patients should be advised to always keep a spare syringe and vial, or a spare pen and cartridge. Prefilled pens are packed with instructions on how to use them. These directions should be followed carefully. Do not use if, after resuspension, the insulin remains at the bottom, if there are clumps in the insulin, or if solid white particles stick to the bottom or wall giving the container a frosted appearance. **Contra-indications** Hypersensitivity to the active ingredient or to any of the excipients. Hypoglycaemia. **Warnings and Special Precautions (general)** Transferring a patient to another type or brand of insulin should be done under strict medical supervision. Changes in strength, brand, type, species, and/or method of manufacture may result in the need for a change in dosage. For fast acting insulins, any patient also on basal insulin must optimise dosage of both insulins to obtain glucose control across the whole day, particularly nocturnal/fasting glucose control. Changes in early warning symptoms of hypoglycaemia may occur on transfer between different types of insulin products. Insulin requirements may be reduced in the presence of renal impairment or hepatic impairment. However, in patients with chronic hepatic impairment, an increase in insulin resistance may lead to increased insulin requirements. Insulin requirements may be increased during illness or emotional disturbances. Cases of cardiac failure have been reported when pioglitazone was used in combination with insulin. If the combination is used, patients should be observed for signs and symptoms of heart failure and pioglitazone discontinued if any deterioration occurs. **Pregnancy and Lactation** Insulin requirements usually fall during the first trimester and increase during the second and third trimesters. Patients should be advised to inform their doctors if they are pregnant or contemplating pregnancy. **Driving, etc** The patient's ability to concentrate and react may be impaired as a result of hypoglycaemia. This may constitute a risk in situations where these abilities are of special importance (eg, driving a car or operating machinery). **Undesirable Effects** Hypoglycaemia is the most frequent undesirable effect of insulin therapy. Local allergy is common and usually resolves. Systemic allergy is rare but potentially more

serious since severe cases may be life-threatening. Lipodystrophy is uncommon. *For full details of these and other side-effects, please see the Summary of Product Characteristics, which is available at <http://emc.medicines.org.uk/>.* **Legal Category** POM **Date of Preparation or Last Review** March 2011 (internal review June 2013) **Full Prescribing Information is Available From** Eli Lilly and Company Limited Lilly House, Priestley Road Basingstoke, Hampshire, RG24 9NL Telephone: Basingstoke (01256) 315 000 E-mail: [ukmedinfo@lilly.com](mailto:ukmedinfo@lilly.com) Website: [www.lillypro.co.uk](http://www.lillypro.co.uk)

	Price by formulation		
	5 x 3ml KwikPen	5 x 3ml Cartridge	1 x 10ml Vial
Humalog	£29.46	£28.31	£16.61
Humalog Mix25	£30.98	£29.46	£16.61
Humalog Mix50	£30.98	£29.46	
Humulin I	£21.70	£19.08	£15.68
Humulin S		£19.08	£15.68
Humulin M3	£21.70	£19.08	£15.68

Adverse events should be reported. Reporting forms and further information can be found at: [www.mhra.gov.uk/yellowcard](http://www.mhra.gov.uk/yellowcard).

Adverse events and product complaints should also be reported to Lilly: please call Lilly UK on 01256 315 000.

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