PROZINC- protamine zinc recombinant human insulin injection
Boehringer Ingelheim Animal Health USA Inc.

ProZinc®
(protamine zinc recombinant human insulin) 40 IU/mL

Package Insert for Cats

ProZinc®

(protamine zinc recombinant human insulin)

40 IU/mL

Caution:

Federal law restricts this drug to use by or on the order of a licensed veterinarian.

Description:

PROZINC is a sterile aqueous protamine zinc suspension of recombinant human insulin.

Each mL contains:
recombinant human insulin.....40 International Units (IU)
protamine sulfate.....0.466 mg
zinc oxide.....0.088 mg
glycerin.....16.00 mg
dibasic sodium phosphate, heptahydrate..... 3.78 mg
phenol (added as preservative)..... 2.50 mg
hydrochloric acid..... 1.63 mg
water for injection (maximum)..... 1005 mg
pH is adjusted with hydrochloric acid and/or sodium hydroxide.

Indication:

PROZINC (protamine zinc recombinant human insulin) is indicated for the reduction of hyperglycemia and hyperglycemia-associated clinical signs in cats with diabetes mellitus.

Dosage and Administration:

USE OF A SYRINGE OTHER THAN A U-40 SYRINGE WILL RESULT IN INCORRECT DOSING.

FOR SUBCUTANEOUS INJECTION ONLY.

DO NOT SHAKE OR AGITATE THE VIAL.

PROZINC should be mixed by gently rolling the vial prior to withdrawing each dose from the vial. Once mixed, PROZINC suspension has a white, cloudy

appearance. Clumps or visible white particles can form in insulin suspensions: do not use the product if clumps or visible white particles persist after gently rolling the vial.

Using a U-40 insulin syringe, the injection should be administered subcutaneously on the back of the neck or on the side of the cat.

Always provide the Client Information Sheet with each prescription.

The initial recommended PROZINC dose is 0.1 - 0.3 IU insulin/pound of body weight (0.2 - 0.7 IU/kg) every 12 hours. The dose should be given concurrently with or right after a meal. The veterinarian should re-evaluate the cat at appropriate intervals and adjust the dose based on both clinical signs and glucose nadirs until adequate glycemic control has been attained. In the effectiveness field study, glycemic control was considered adequate if the glucose nadir from a 9-hour blood glucose curve was between 80 and 150 mg/dL and clinical signs of hyperglycemia such as polyuria, polydipsia, and weight loss were improved.

Further adjustments in the dosage may be necessary with changes in the cat's diet, body weight, or concomitant medication, or if the cat develops concurrent infection, inflammation, neoplasia, or an additional endocrine or other medical disorder.

Contraindications:

PROZINC is contraindicated in cats sensitive to protamine zinc recombinant human insulin or any other ingredients in PROZINC. PROZINC is contraindicated during episodes of hypoglycemia.

Warnings:

User Safety: For use in cats and dogs only. Keep out of the reach of children. Avoid contact with eyes. In case of contact, immediately flush eyes with running water for at least 15 minutes. Accidental injection may cause hypoglycemia. In case of accidental injection, seek medical attention immediately. Exposure to product may induce a local or systemic allergic reaction in sensitized individuals.

Animal Safety: Owners should be advised to observe for signs of hypoglycemia (see Client Information Sheet). Use of this product, even at established doses, has been associated with hypoglycemia. A cat with signs of hypoglycemia should be treated immediately. Glucose should be given orally or intravenously as dictated by clinical signs. Insulin should be temporarily withheld and, if indicated, the dosage adjusted.

Any change in insulin should be made cautiously and only under a veterinarian's supervision. Changes in insulin strength, manufacturer, type, species (human, animal) or method of manufacture (rDNA versus animal-source insulin) may result in the need for a change in dosage.

Appropriate diagnostic tests should be performed to rule out other endocrinopathies in diabetic cats that are difficult to regulate.

Precautions:

Cats presenting with severe ketoacidosis, anorexia, lethargy, and/or vomiting should be

stabilized with short-acting insulin and appropriate supportive therapy until their condition is stabilized. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia is essential to attain and maintain adequate glycemic control and to prevent associated complications. Overdose can result in profound hypoglycemia and death.

Glucocorticoids, progestogens, and certain endocrinopathies can have an antagonistic effect on insulin activity. Glucocorticoid and progestogen use should be avoided.

The safety and effectiveness of PROZINC in breeding, pregnant, and lactating cats has not been evaluated.

The safety and effectiveness of PROZINC in kittens has not been evaluated.

Adverse Reactions:

Effectiveness Field Study

In a 45-day effectiveness field study, 176 cats received PROZINC. Hypoglycemia (defined as a blood glucose value of < 50 mg/dL) occurred in 71 of the cats at various times throughout the study. Clinical signs of hypoglycemia were generally mild in nature (described as lethargic, sluggish, weak, trembling, uncoordinated, groggy, glassy-eyed or dazed). In 17 cases, the veterinarian provided oral glucose supplementation or food as treatment. Most cases were not associated with clinical signs and received no treatment. One cat had a serious hypoglycemic event associated with stupor, lateral recumbency, hypothermia and seizures.

All cases of hypoglycemia resolved with appropriate therapy and if needed, a dose reduction.

Three cats had injection site reactions which were described as either small, punctate, red lesions; lesions on neck; or palpable subcutaneous thickening. All injection site reactions resolved without cessation of therapy.

Four cats developed diabetic neuropathy during the study as evidenced by plantigrade stance. Three cats entered the study with plantigrade stance, one of which resolved by Day 45. Four cats were diagnosed with diabetic ketoacidosis during the study. Two were euthanized due to poor response to treatment. Five other cats were euthanized during the study, one of which had hypoglycemia. Four cats had received PROZINC for less than a week and were euthanized due to worsening concurrent medical conditions.

The following additional clinical observations or diagnoses were reported in cats during the effectiveness field study: vomiting, lethargy, diarrhea, cystitis/hematuria, upper respiratory infection, dry coat, hair loss, ocular discharge, abnormal vocalization, black stool, and rapid breathing.

Extended Use Field Study

Cats that completed the effectiveness study were enrolled into an extended use field study. In this study, 145 cats received PROZINC for up to an additional 136 days. Adverse reactions were similar to those reported during the 45-day effectiveness study and are listed in order of decreasing frequency: vomiting, hypoglycemia, anorexia/poor appetite, diarrhea, lethargy, cystitis/hematuria, and weakness. Twenty cats had signs consistent with hypoglycemia described as: sluggish, lethargic, unsteady, wobbly,

seizures, trembling, or dazed. Most of these were treated by the owner or veterinarian with oral glucose supplementation or food; others received intravenous glucose. One cat had a serious hypoglycemic event associated with seizures and blindness. The cat fully recovered after supportive therapy and finished the study. All cases of hypoglycemia resolved with appropriate therapy and if needed, a dose reduction.

Fourteen cats died or were euthanized during the extended use study. In two cases, continued use of insulin despite anorexia and signs of hypoglycemia contributed to the deaths. In one case, the owner decided not to continue therapy after a presumed episode of hypoglycemia. The rest were due to concurrent medical conditions or worsening of the diabetes mellitus.

To report suspected adverse drug events, for technical assistance or to obtain a copy of the Safety Data Sheet (SDS), contact Boehringer Ingelheim at 1-888-637-4251.

For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at www.fda.gov/reportanimalae.

Information for Cat Owners:

Please refer to the Client Information Sheet for Cats for more information about PROZINC. PROZINC, like other insulin products, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the associated clinical signs. Potential adverse reactions include: hypoglycemia, insulin antagonism/resistance, rapid insulin metabolism, insulin-induced hyperglycemia (Somogyi Effect), and local or systemic reactions. The most common adverse reaction observed is hypoglycemia. Signs may include: weakness, depression, behavioral changes, muscle twitching, and anxiety. In severe cases of hypoglycemia, seizures and coma can occur. Hypoglycemia can be fatal if an affected cat does not receive prompt treatment. Appropriate veterinary monitoring of blood glucose, adjustment of insulin dose and regimen as needed, and stabilization of diet and activity help minimize the risk of hypoglycemic episodes. The attending veterinarian should evaluate other adverse reactions on a case-by-case basis to determine if an adjustment in therapy is appropriate, or if alternative therapy should be considered.

Effectiveness:

A total of 187 client-owned cats were enrolled in a 45-day field study, with 176 receiving PROZINC. One hundred and fifty-one cats were included in the effectiveness analysis. The patients included various purebred and mixed breed cats ranging in age from 3 to 19 years and in weight from 4.6 to 20.8 pounds. Of the cats included in the effectiveness analysis, 101 were castrated males, 49 were spayed females, and 1 was an intact female.

Cats were started on PROZINC at a dose of 0.1-0.3 IU/lb (0.2-0.7 IU/kg) twice daily. Cats were evaluated at 7, 14, 30, and 45 days after initiation of therapy and the dose was adjusted based on clinical signs and results of 9-hour blood glucose curves on Days 7, 14, and 30.

Effectiveness was based on successful control of diabetes which was defined as improvement in at least one blood glucose variable (glucose curve mean, nadir, or fructosamine) and at least one clinical sign (polyuria, polydipsia, or body weight). Based

on this definition, 115 of 151 cases (76.2%) were considered successful. Blood glucose curve means decreased from 415.3 mg/dL on Day 0 to 203.2 mg/dL by Day 45 and the mean blood glucose nadir decreased from 407.9 mg/dL on Day 0 to 142.4 mg/dL on Day 45. Mean fructosamine values decreased from 505.9 µmol/L on Day 0 to 380.7 µmol/L on Day 45.

Cats that completed the effectiveness study were enrolled in an extended use field study. The mean fructosamine value was 342.0 µmol/L after a total of 181 days of PROZINC therapy.

How Supplied:

PROZINC is supplied as a sterile injectable suspension in 10 mL and 20 mL multi-dose vials. Each mL of PROZINC contains 40 IU recombinant human insulin.

Storage Conditions:

Store in an upright position under refrigeration at 36-46°F (2-8°C). Do not freeze. Protect from light. **Use the 10 mL vial within 60 days of first puncture. Use the 20 mL vial within 80 days of first puncture.**

Approved by FDA under NADA #141-297

Marketed by:
Boehringer Ingelheim Animal Health USA Inc.
Duluth, GA 30096

PROZINC® is a registered trademark of Boehringer Ingelheim Animal Health USA Inc.

Revised 08/2019
449986-01

Package Insert for Dogs

ProZinc®

(protamine zinc recombinant human insulin)

40 IU/mL

Caution:

Federal law restricts this drug to use by or on the order of a licensed veterinarian.

Description:

PROZINC is a sterile aqueous protamine zinc suspension of recombinant human insulin.

Each mL contains:
recombinant human insulin.....40 International Units (IU)
protamine sulfate.....0.466 mg
zinc oxide.....0.088 mg
glycerin.....16.00 mg
dibasic sodium phosphate, heptahydrate..... 3.78 mg
phenol (added as preservative)..... 2.50 mg
hydrochloric acid..... 1.63 mg
water for injection (maximum)..... 1005 mg
pH is adjusted with hydrochloric acid and/or sodium hydroxide.

Indication:

PROZINC (protamine zinc recombinant human insulin) is indicated for the reduction of hyperglycemia and hyperglycemia-associated clinical signs in dogs with diabetes mellitus.

Dosage and Administration:

USE OF A SYRINGE OTHER THAN A U-40 SYRINGE WILL RESULT IN INCORRECT DOSING.

FOR SUBCUTANEOUS INJECTION ONLY.

DO NOT SHAKE OR AGITATE THE VIAL.

PROZINC should be mixed by gently rolling the vial prior to withdrawing each dose from the vial. Once mixed, PROZINC suspension has a white, cloudy appearance. Clumps or visible white particles can form in insulin suspensions: do not use the product if clumps or visible white particles persist after gently rolling the vial.

Using a U-40 insulin syringe, the injection should be administered subcutaneously on the back of the neck or on the side of the dog.

Always provide the Client Information Sheet with each prescription.

Starting dose: The recommended starting dose for PROZINC is 0.2-0.5 IU insulin/pound of body weight (0.5-1.0 IU/kg) **once daily**. The recommended starting dose for naïve dogs is the lower end of the dose range. The recommended starting dose for dogs with poorly controlled diabetes mellitus and transitioning from another insulin product is the mid to higher end of the dose range based on the veterinarian's experience with the dog's medical history and previous insulin dose. When transitioning from another insulin, the dog's blood glucose and general condition should be closely monitored. **When transitioning from another insulin, PROZINC should be started once daily, regardless of the frequency of prior insulin use.**

The dose should be given concurrently with or right after a meal. The veterinarian should re-evaluate the dog at appropriate intervals and adjust the dose and frequency based on both clinical signs and laboratory test results (the blood glucose curve values and shape, nadir, and fructosamine) until adequate glycemic control has been attained. In the effectiveness field study, glycemic control was considered adequate if the glucose nadir from a 9-hour blood glucose curve was between 80 and 125 mg/dL, the maximum blood glucose was ≤ 300 mg/dL, and clinical signs of hyperglycemia such as polyuria, polydipsia, or weight loss were improved.

Changing to twice daily dosing: Twice daily dosing should be considered if the duration of insulin action is determined to be inadequate with once daily dosing. Use caution when adjusting from once daily to twice daily dosing because PROZINC may have prolonged duration of action in some dogs (see Clinical Pharmacology). The veterinarian should closely monitor the duration of action using blood glucose curves to avoid the increased risk of hypoglycemia. If twice daily dosing is initiated, the two doses should each be approximately 25% less than the once daily dose required to attain an acceptable glucose nadir. For example, if a dog receiving 10 units of PROZINC once daily has an acceptable nadir but inadequate duration of activity, the dose should be changed to 7 units twice daily (round down to the nearest whole unit).

Further adjustments in the dosage may be necessary with changes in the dog's diet, body weight, or concomitant medication, or if the dog develops concurrent infection, inflammation, neoplasia, or an additional endocrine or other medical disorder.

Contraindications:

PROZINC is contraindicated in dogs sensitive to protamine zinc recombinant human insulin or any other ingredients in PROZINC. PROZINC is contraindicated during episodes of hypoglycemia.

Warnings:

User Safety: For use in dogs and cats only. Keep out of the reach of children. Avoid contact with eyes. In case of contact, immediately flush eyes with running water for at least 15 minutes. Accidental injection may cause hypoglycemia. In case of accidental injection, seek medical attention immediately. Exposure to product may induce a local or systemic allergic reaction in sensitized individuals.

Animal Safety: Owners should be advised to observe for signs of hypoglycemia (see Client Information Sheet). Use of this product, even at established doses, has been associated with hypoglycemia. A dog with signs of hypoglycemia should be treated immediately. Glucose should be given orally or intravenously as dictated by clinical signs. Insulin should be temporarily withheld and, if indicated, the dosage adjusted.

Any change in insulin should be made cautiously and only under a veterinarian's supervision. Changes in insulin strength, manufacturer, type, species (human, animal) or method of manufacture (rDNA versus animal-source insulin) may result in the need for a change in dosage.

Appropriate diagnostic tests should be performed to rule out other endocrinopathies in diabetic dogs that are difficult to regulate.

Precautions:

Dogs presenting with severe ketoacidosis, anorexia, lethargy, and/or vomiting should be stabilized with short-acting insulin and appropriate supportive therapy until their condition is stabilized. As with all insulin products, careful patient monitoring for hypoglycemia and hyperglycemia is essential to attain and maintain adequate glycemic control and to prevent associated complications. Overdose can result in profound

hypoglycemia and death.

Glucocorticoids, progestogens, and certain endocrinopathies can have an antagonistic effect on insulin activity. Glucocorticoid and progestogen use should be avoided.

The safety and effectiveness of PROZINC in breeding, pregnant, and lactating dogs has not been evaluated.

The safety and effectiveness of PROZINC in puppies has not been evaluated.

Adverse Reactions:

In a 182-day field study, 276 dogs received PROZINC. The most common adverse reactions were lethargy, anorexia, hypoglycemia, vomiting, seizures, shaking, diarrhea, and ataxia.

Table 1 summarizes the adverse reactions reported in the study. Clinical signs of hypoglycemia varied and included seizure, collapse, ataxia, staggering, trembling, twitching, shaking, disorientation, lethargy, weakness, and vocalization. In Table 1, the individual clinical signs that were observed during the episodes of hypoglycemia are captured as separate adverse reactions and a single dog may have experienced more than one clinical sign of hypoglycemia.

Table 1. Adverse reactions seen in the safety population (276 dogs)

Adverse Reaction	**Number and Percentage**
Lethargy (lethargy, depression, listless, and tiredness)	45 (16.3%)
Anorexia (anorexia, decreased appetite, inappetence, and not eating)	28 (10.1%)
Hypoglycemia with clinical signs	24 (8.9%)
Vomiting	21 (7.6%)
Seizures	16 (5.8%)
Shaking/trembling/twitching	13 (4.7%)
Ataxia (ataxia, balance problem, stumbling gait)	11 (4.0%)
Diarrhea (includes bloody diarrhea)	9 (3.3%)
Disorientation/confusion	9 (3.3%)
Weakness	8 (2.9%)
Restlessness/anxiety/agitation	6 (2.2%)
Cataract	6 (2.2%)
Panting (panting and tachypnea)	6 (2.2%)
Hematuria	4 (1.5%)

Clinical pathology: The only change seen in complete blood count, serum chemistry, and urinalysis results was an elevation in mean cholesterol at Day 182 (432.6 mg/dL, normal range 131-345 mg/dL) compared to Day -1 (333.7 mg/dL).)

Injection site reactions: Seven dogs had injection site reactions, including observations of thickened skin, swelling, bumps at the injection site, and redness. All injection site reactions resolved without cessation of PROZINC therapy. Reaction to the injection, including vocalization, was observed in four dogs.

Hypoglycemia: There were 80 hypoglycemic episodes recorded during the study with some dogs experiencing more than one episode; 37 episodes were associated with clinical signs in 24 dogs, 40 episodes were without clinical signs in 27 dogs, and 3 were with unknown signs in 2 dogs. Clinical signs of hypoglycemia varied and included seizure, collapse, ataxia, staggering, trembling, twitching, shaking, disorientation, lethargy, weakness, and vocalization. Some dogs required hospitalization and intravenous dextrose while most recovered after receiving oral supplementation with a meal and/or oral glucose such as syrup. Two dogs were euthanized when the hypoglycemia did not resolve with supportive care. Hypoglycemia without clinical signs was defined as two consecutive blood glucose curve values < 60 mg/dL unaccompanied by clinical signs.

Diabetic ketoacidosis and pancreatitis: Eleven dogs were diagnosed with diabetic ketoacidosis. Four of these 11 dogs died or were euthanized, one after one dose of PROZINC. Twenty-one dogs were diagnosed with pancreatitis. Seven of these 21 dogs died or were euthanized due to

complications of pancreatitis. Four dogs had concurrent diabetic ketoacidosis and pancreatitis, three of which died or were euthanized. Not all the deaths were considered related to PROZINC.

Deaths: Thirty-six (36) dogs died or were euthanized, six of which were possibly related to PROZINC. One dog died from recurrent episodes of pancreatitis, and one died after developing severe vomiting and diarrhea followed by a seizure. Four dogs were euthanized: one developed severe pancreatitis and azotemia, one had recurrent episodes of pancreatitis and diabetic ketoacidosis, and two for lack of effectiveness.

To report suspected adverse drug events, for technical assistance or to obtain a copy of the Safety Data Sheet (SDS), contact Boehringer Ingelheim at 1-888-637-4251.

For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or online at www.fda.gov/reportanimalae.

Clinical Pharmacology:

PROZINC was administered subcutaneously to 10 healthy Beagles using an incomplete crossover design at doses of 0.5 IU/kg (5 dogs), 0.8 IU/kg at a single site (10 dogs), or 0.8 IU/kg at three separate sites (6 dogs). Insulin and glucose concentrations were measured over 24 hours. The shapes of insulin and glucose curves were variable among dogs; and the relationship between insulin dose, concentration, and glucose-lowering effect was nonlinear (Table 2).

Table 2. Pharmacodynamics of three dosing groups

Dose group	Onset of Action	Time to nadir	Duration of Action
0.5 IU/kg at a single site	1 to 14 hours	6 to 16 hours	16 to >24 hours
0.8 IU/kg at a single site	0.5 to 10 hours	5 to >24 hours	16 to >24 hours
0.8 IU/kg divided at three sites	1 to 10 hours	8 to 20 hours	18 to >24 hours

Information for Dog Owners:

Please refer to the Client Information Sheet for Dogs for more information about PROZINC. PROZINC, like other insulin products, is not free from adverse reactions. Owners should be advised of the potential for adverse reactions and be informed of the associated clinical signs. Potential adverse reactions include hypoglycemia, insulin antagonism/resistance, rapid insulin metabolism, insulin-induced hyperglycemia (Somogyi Effect), and local or systemic reactions. The most common adverse reaction observed is hypoglycemia. Signs may include weakness, depression, behavioral changes, muscle twitching, and anxiety. In severe cases of hypoglycemia, seizures and coma can occur. Hypoglycemia can be fatal if an affected dog does not receive prompt treatment. Appropriate veterinary monitoring of blood glucose, adjustment of insulin dose and regimen as needed, and stabilization of diet and activity help minimize the risk of hypoglycemic episodes. The attending veterinarian should evaluate other adverse reactions on a case-by-case basis to determine if an adjustment in therapy is appropriate, or if alternative therapy should be considered.

Effectiveness:

A total of 276 client-owned dogs were enrolled in an 84-day field study followed by a 98-day extended-use phase with 276 dogs receiving PROZINC. The dogs included various purebred and mixed breed dogs ranging in age from 2 to 16 years and in weight from 3.3 to 123 pounds. There were 128 neutered males, 8 intact males, 134 spayed females and 6 intact females. Two hundred twenty-four dogs (224) were included in the effectiveness analysis. Dogs were started on PROZINC at a dose of 0.2-0.5 IU/lb (0.5-1.0 IU/kg) once daily. Dogs were evaluated at 7, 14, 21, 28, 42, 63 and 84 days after initiation of therapy. The dose was adjusted based on clinical signs and results of 9-hour blood glucose curves on Days 7, 14, 21, 28, 42, 63 and 84.

Effectiveness was based on successful control of diabetes which was defined as improvement in at least one laboratory variable (blood glucose curve mean, blood glucose curve nadir, or fructosamine) and at least one clinical sign (polyuria, polydipsia, or weight loss). Based on this definition, 162 of 224 cases (72%) were considered successful.

How Supplied:

PROZINC is supplied as a sterile injectable suspension in 10 mL and 20 mL multi-dose

vials. Each mL of PROZINC contains 40 IU recombinant human insulin.

Storage Conditions:

Store in an upright position under refrigeration at 36-46°F (2-8°C). Do not freeze. Protect from light. **Use the 10 mL vial within 60 days of first puncture. Use the 20 mL within 80 days of first puncture.**

Approved by FDA under NADA #141-297

Marketed by:
Boehringer Ingelheim Animal Health USA Inc.
Duluth, GA 30096

PROZINC® is a registered trademark of Boehringer Ingelheim Animal Health USA Inc.

Revised 08/2019
449986-01

Client Information Sheet for Cats

ProZinc®

(protamine zinc recombinant human insulin) 40 IU/mL

This summary contains important information about PROZINC. You should read this information before you start giving your cat PROZINC and review it each time the prescription is refilled. This sheet is provided only as a summary and does not take the place of instructions from your veterinarian. Talk to your veterinarian if you do not understand any of this information or if you want to know more about PROZINC.

What is PROZINC?

PROZINC is an aqueous protamine zinc suspension of recombinant human insulin that is used to reduce high blood sugar (hyperglycemia) in cats with diabetes mellitus. A veterinarian must prescribe PROZINC for your cat. **PROZINC should be given only to the cat for which it is prescribed.** Keep out of reach of children. Seek medical attention immediately if you accidentally inject yourself with PROZINC.

What is diabetes mellitus?

Diabetes mellitus occurs when a cat has insufficient levels of, or an abnormal response to, insulin. The low insulin levels may result in high blood sugar (hyperglycemia) that could produce the following changes in your cat:
• Increased thirst
• Increased urination
• Increased appetite
• Weight loss
• High levels of sugar (glucose) in the urine (glucosuria)
• Weakness in the back legs

What kind of results can I expect when my cat is on PROZINC for diabetes mellitus?

Although PROZINC is not a cure for diabetes mellitus, it can help reduce the levels of sugar (glucose) in the blood, which can help alleviate the clinical signs.

What should I discuss with my veterinarian before giving PROZINC?

Talk to your veterinarian about:
• The signs of diabetes mellitus you have observed in your cat (for example, increased thirst and urination).
• The importance of proper PROZINC storage, handling, and administration techniques (for example, how to gently roll the vial prior to each use, the proper appearance of product after gently rolling, how to fill the U-40 syringe with the proper amount of insulin, and where and how to inject the insulin).
• The importance of maintaining your cat under the same conditions for diet, exercise, environment, etc.
• The importance of follow-up visits for testing to determine if dose adjustments of PROZINC are necessary.
Tell your veterinarian about:
• Any side effects your cat has had when receiving other insulin products.
• Any medical problems or allergies that your cat has now or has had in the past.
• All medications that you are giving your cat or plan to give your cat, including those you can get without a prescription.
• If your cat is pregnant, nursing, or if you plan to breed your cat.

What are the possible side effects that may occur in my cat during PROZINC therapy?

PROZINC, like other drugs, may cause side effects. Serious side effects can occur with or without warning. Please contact your veterinarian immediately if you think your cat has a medical problem or side effect from PROZINC therapy. The most common insulin-related side effect is low blood sugar (hypoglycemia). Signs of low blood sugar (hypoglycemia) can occur suddenly and may include:
• Weakness
• Depression, lethargy, sluggishness
• Staggering gait
• Behavioral changes
• Muscle twitching
• Seizures, convulsions
• Coma
• Death

What actions do I take if my cat shows signs of low blood sugar (hypoglycemia)?

• If your cat is unconscious or having a seizure, this is a medical emergency. Take your cat to the veterinarian immediately.
• If your cat is conscious, rub approximately 1 tablespoon of corn syrup or honey on your cat’s gums. When it is able to swallow, give corn syrup or honey by mouth until your cat is alert enough to eat. Feed the usual meal and contact your veterinarian.

When should my cat not be given PROZINC?

Do not give your cat its prescribed dose of PROZINC if it:
• Is experiencing an episode of low blood sugar (hypoglycemia). Common causes for low blood sugar include excessive doses of insulin, failure to eat, strenuous exercise, changes in the body's need for insulin, diabetes-inducing disease or drug effects.
• Is not eating or is vomiting.
• Is sensitive to protamine zinc recombinant human insulin or any other ingredients in PROZINC.

• Do not give your cat its prescribed dose of PROZINC if you see clumps or visible white particles in the vial after gently rolling.

How should I give PROZINC to my cat?

PROZINC should be given with or right after a meal.

Give PROZINC with U-40 syringes only. Use of a syringe other than a U-40 syringe will result in incorrect dosing. Gently roll the vial until the PROZINC has a uniformly cloudy, white appearance. If there are clumps or visible white particles in the vial after gently rolling, do not use the PROZINC and call your veterinarian. PROZINC should be given according to your veterinarian's instructions. Your veterinarian will tell you what amount of PROZINC is right for your cat and instruct you on techniques for administration.

Can PROZINC be given with other medications?

PROZINC can be given with other medications, but the dose may need to be adjusted due to the medication resulting in either increased or decreased insulin requirements. Tell your veterinarian about all medications you have given your cat in the past, and any medications that you are planning to give with PROZINC. This should include medications that you can get for your cat without a prescription. Your veterinarian may want to ensure that all of your cat's medications can be given together.

What should I do if I inject more than the prescribed amount of PROZINC?

Contact your veterinarian immediately and, if your veterinarian is not available, seek other veterinary advice at once.

What should I do if my cat receives less than the prescribed dose, or I miss an injection?

• Contact your veterinarian as soon as possible for advice on your cat's next dose.
• If you cannot reach your veterinarian and your cat is eating and acting normally, give your cat the usual dose at the next regularly scheduled injection time.

How should I store PROZINC?

PROZINC should be stored in an upright position under refrigeration at 36-46°F (2-8°C). Do not freeze. Protect from light. **Use the 10 mL vial within 60 days of first puncture. Use the 20 mL vial within 80 days of first puncture.**

What else should I know about PROZINC?

This sheet provides a summary of information about PROZINC. If you have any questions or concerns about the product or diabetes mellitus, talk to your veterinarian. As with all prescribed medications, PROZINC should only be given to the cat for which it is prescribed and for the condition for which it was prescribed.
It is important to periodically discuss your cat's response to PROZINC at regular

checkups that may include blood glucose monitoring. Your veterinarian will best determine if your cat is responding as expected and should continue receiving PROZINC.

Approved by FDA under NADA # 141-297

PROZINC® is a registered trademark of Boehringer Ingelheim Animal Health USA Inc.

Revised 08/2019

Client Information Sheet for Dogs

ProZinc®

(protamine zinc recombinant human insulin)

40 IU/mL

This summary contains important information about PROZINC. You should read this information before you start giving your dog PROZINC and review it each time the prescription is refilled. This sheet is provided only as a summary and does not take the place of instructions from your veterinarian. Talk to your veterinarian if you do not understand any of this information or if you want to know more about PROZINC.

What is PROZINC?

PROZINC is an aqueous protamine zinc suspension of recombinant human insulin that is used to reduce high blood sugar (hyperglycemia) in dogs with diabetes mellitus. A veterinarian must prescribe PROZINC for your dog. **PROZINC should be given only to the dog for which it is prescribed.** Keep out of reach of children. Seek medical attention immediately if you accidentally inject yourself with PROZINC.

What is diabetes mellitus?

Diabetes mellitus occurs when a dog has insufficient levels of, or an abnormal response to, insulin. The low insulin levels may result in high blood sugar (hyperglycemia) that could produce the following changes in your dog:
• Increased thirst
• Increased urination
• Increased appetite
• Weight loss
• High levels of sugar (glucose) in the urine (glucosuria)

What kind of results can I expect when my dog is on PROZINC for diabetes mellitus?

Although PROZINC is not a cure for diabetes mellitus, it can help reduce the levels of sugar (glucose) in the blood, which can help alleviate the clinical signs.

What should I discuss with my veterinarian before giving PROZINC?

Talk to your veterinarian about:

• The signs of diabetes mellitus you have observed in your dog (for example, increased thirst and urination).
• The importance of proper PROZINC storage, handling, and administration techniques (for example, how to gently roll the vial prior to each use, the proper appearance of product after gently rolling, how to fill the U-40 syringe with the proper amount of insulin, and where and how to inject the insulin).
• The importance of maintaining your dog under the same conditions for diet, exercise, environment, etc.
• The importance of follow-up visits for testing to determine if dose adjustments of PROZINC are necessary.

Tell your veterinarian about:
• Any side effects your dog has had when receiving other insulin products.
• Any medical problems or allergies that your dog has now or has had in the past.
• All medications that you are giving your dog or plan to give your dog, including those you can get without a prescription.
• If your dog is pregnant, nursing, or if you plan to breed your dog.

What are the possible side effects that may occur in my dog during PROZINC therapy?

PROZINC, like other drugs, may cause side effects. Serious side effects can occur with or without warning. Please contact your veterinarian immediately if you think your dog has a medical problem or side effect from PROZINC therapy. The most common insulin-related side effect is low blood sugar (hypoglycemia). Signs of low blood sugar (hypoglycemia) can occur suddenly and may include:
• Weakness
• Depression, lethargy, sluggishness
• Staggering gait
• Behavioral changes
• Muscle twitching
• Seizures, convulsions
• Coma
• Death

What actions do I take if my dog shows signs of low blood sugar (hypoglycemia)?

• **If your dog is unconscious or having a seizure, this is a medical emergency. Take your dog to the veterinarian immediately.**
• If your dog is conscious, rub approximately 1 tablespoon of corn syrup or honey on your dog’s gums. When it can swallow, give corn syrup or honey by mouth until your dog is alert enough to eat. Feed the usual meal and contact your veterinarian.

When should my dog not be given PROZINC?

Do not give your dog its prescribed dose of PROZINC if it:
• Is experiencing an episode of low blood sugar (hypoglycemia). Common causes for low blood sugar include excessive doses of insulin, failure to eat, strenuous exercise, changes in the body’s need for insulin, diabetes-inducing disease or drug effects.
• Is not eating or is vomiting.
• Is sensitive to protamine zinc recombinant human insulin or any other ingredients in PROZINC.

• Do not give your dog its prescribed dose of PROZINC if you see clumps or visible white particles in the vial after gently rolling.

How should I give PROZINC to my dog?

PROZINC should be given with or right after a meal.

Give PROZINC with U-40 syringes only. Use of a syringe other than a U-40 syringe will result in incorrect dosing. Gently roll the vial until the PROZINC has a uniformly cloudy, white appearance. If there are clumps or visible white particles in the vial after gently rolling, do not use the PROZINC and call your veterinarian. PROZINC should be given according to your veterinarian's instructions. Your veterinarian will tell you what amount of PROZINC is right for your dog and instruct you on techniques for administration.

Can PROZINC be given with other medications?

PROZINC can be given with other medications, but the dose may need to be adjusted due to the medication resulting in either increased or decreased insulin requirements. Tell your veterinarian about all medications you have given your dog in the past, and any medications that you are planning to give with PROZINC. This should include medications that you can get for your dog without a prescription. Your veterinarian may want to ensure that all your dog's medications can be given together.

What should I do if I inject more than the prescribed amount of PROZINC?

Contact your veterinarian immediately and, if your veterinarian is not available, seek other veterinary advice at once.

What should I do if my dog receives less than the prescribed dose, or I miss an injection?

• Contact your veterinarian as soon as possible for advice on your dog's next dose.
• If you cannot reach your veterinarian and your dog is eating and acting normally, give your dog the usual dose at the next regularly scheduled injection time.

How should I store PROZINC?

PROZINC should be stored in an upright position under refrigeration at 36-46°F (2-8°C). Do not freeze. Protect from light. **Use the 10 vial within 60 days of first puncture. Use the 20 mL vial within 80 days of first puncture.**

What else should I know about PROZINC?

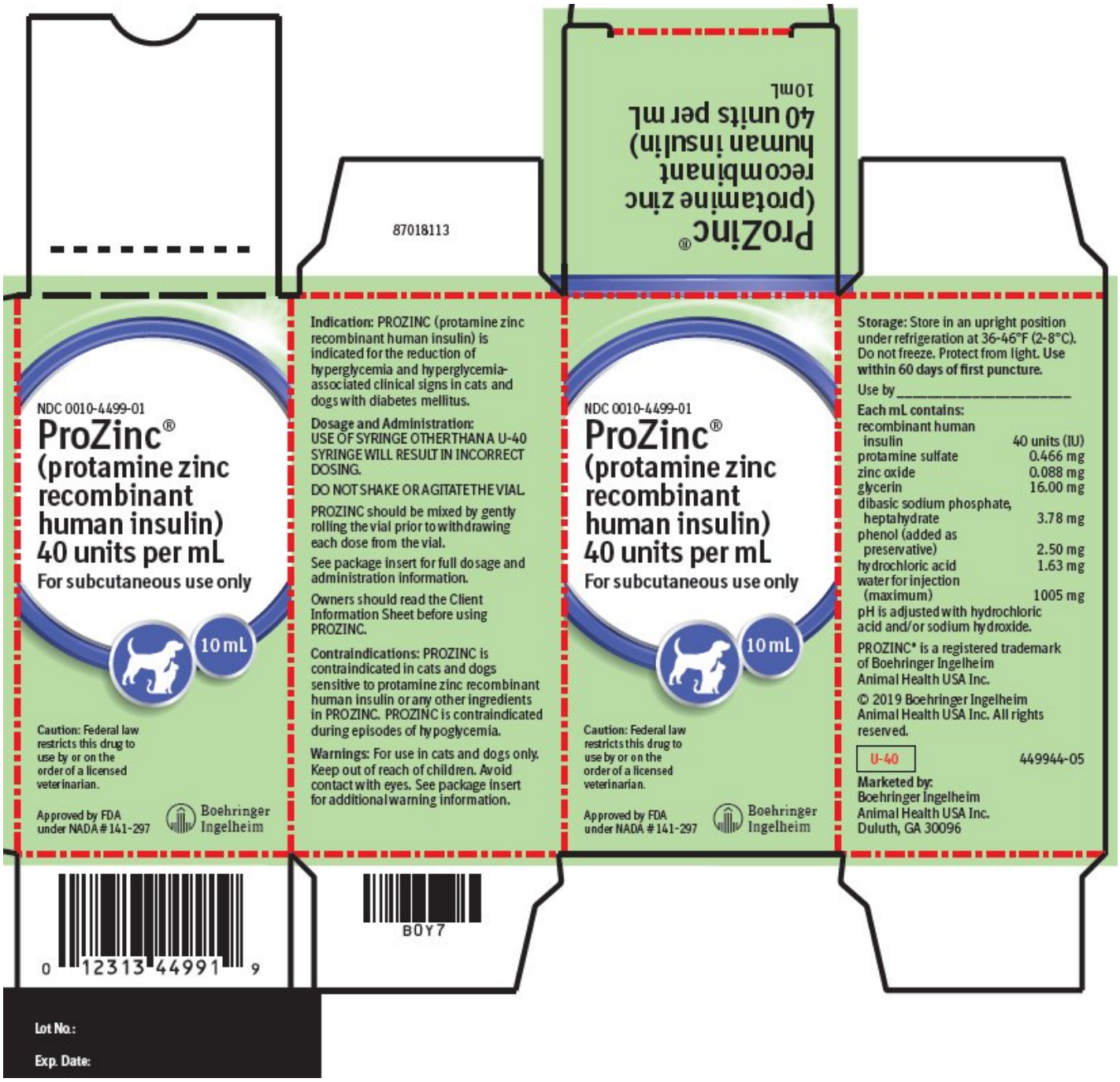
This sheet provides a summary of information about PROZINC. If you have any questions or concerns about the product or diabetes mellitus, talk to your veterinarian. As with all prescribed medications, PROZINC should only be given to the dog for which it is prescribed and for the condition for which it was prescribed.
It is important to periodically discuss your dog's response to PROZINC at regular checkups that may include blood glucose monitoring. Your veterinarian will best determine if your dog is responding as expected and should continue receiving PROZINC.

Approved by FDA under NADA # 141-297

PROZINC® is a registered trademark of Boehringer Ingelheim Animal Health USA Inc.

Revised 08/2019

Principal Display Panel – 10 mL Display Carton



PROZINC

protamine zinc recombinant human insulin injection

Product Information			
Product Type	PRESCRIPTION ANIMAL DRUG	**Item Code (Source)**	NDC:0010-4499

Route of Administration	SUBCUTANEOUS

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
INSULIN HUMAN (UNII: 1Y17CTI5SR) (INSULIN HUMAN - UNII:1Y17CTI5SR)	INSULIN HUMAN	40 [iU] in 1 mL

Inactive Ingredients

Ingredient Name	Strength
PROTAMINE SULFATE (UNII: 0DE9724IHC)	0.466 mg in 1 mL
ZINC OXIDE (UNII: SOI2LOH54Z)	0.088 mg in 1 mL
GLYCERIN (UNII: PDC6A3C0OX)	16 mg in 1 mL
SODIUM PHOSPHATE, DIBASIC, HEPTAHYDRATE (UNII: 70WT22SF4B)	3.78 mg in 1 mL
PHENOL (UNII: 339NCG44TV)	2.5 mg in 1 mL
HYDROCHLORIC ACID (UNII: QTT17582CB)	1.63 mg in 1 mL
WATER (UNII: 059QF0KO0R)	1005 mg in 1 mL

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0010-4499-01	1 in 1 CARTON		
1		10 mL in 1 VIAL, GLASS		
2	NDC:0010-4499-02	1 in 1 CARTON		
2		20 mL in 1 VIAL, GLASS		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NADA	NADA141297	11/11/2009	

Labeler - Boehringer Ingelheim Animal Health USA Inc. (007134091)

Revised: 1/2025 Boehringer Ingelheim Animal Health USA Inc.