Liraglutide (Victoza®, Saxenda®) Overview

Overview:
Liraglutide is a glucagon-like peptide-1 (GLP-1) receptor agonist, a synthetic peptide that mimics the actions of endogenous GLP-1, a key incretin hormone involved in blood glucose regulation and appetite suppression.

Mechanism of Action:
GLP-1 Receptor Activation:
Liraglutide binds to the GLP-1 receptor on pancreatic beta cells, enhancing glucose-dependent insulin secretion.
Suppresses Glucagon Secretion:
Reduces glucagon levels, lowering hepatic glucose output.
Slows Gastric Emptying:
Delays gastric emptying, reducing postprandial blood glucose spikes.
CNS Effects:
Acts on hypothalamic centers, suppressing appetite and promoting satiety.

Physiological Functions in the Body:
Blood Glucose Control: Increases insulin secretion and lowers glucagon in response to food.
Weight Reduction: Decreases caloric intake by enhancing fullness.
Beta Cell Preservation: May help protect pancreatic beta cell mass over time.

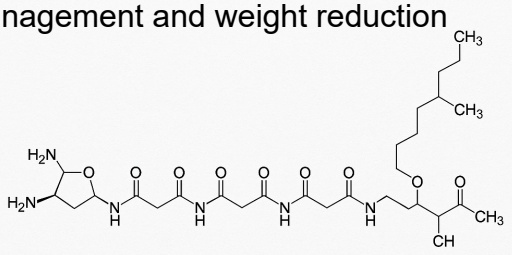
Clinical & Research Use:
FDA-Approved Indications:

- Victoza® (1.2–1.8 mg/day SC): Treatment of type 2 diabetes mellitus.
- Saxenda® (up to 3.0 mg/day SC): Chronic weight management in obese or overweight adults.
- Off-Label/Research: Studied in polycystic ovary syndrome (PCOS), non-alcoholic fatty liver disease (NAFLD), and other metabolic conditions.

Dosing (FDA-Approved):
Type 2 Diabetes (Victoza®):
Start at 0.6 mg/day SC, increase to 1.2 mg/day after 1 week.
Maximum: 1.8 mg/day.

Weight Management (Saxenda®):
Start at 0.6 mg/day SC, escalate weekly to 3.0 mg/day.
Administered:Subcutaneously, usually in the abdomen, thigh, or upper arm.

Conclusion:
Liraglutide is a versatile GLP-1 receptor agonist that improves blood glucose control, supports weight loss, and offers potential metabolic benefits. Its dual role in diabetes management and weight reduction makes it a valuable tool in modern metabolic care.



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