GLP-1 / WEIGHT LOSS

Survodutide

LY3437943; dual GCG/GLP-1 receptor agonist

CAS Number	TBD
Molecular Formula	$C_{62}H_{100}N_{16}O_{16}$
Molecular Weight	1389.6 Da
Category	GLP-1 / Weight Loss
Available Specifications	10 mg vial, 10 mg pre-filled pen

1. OVERVIEW

Survodutide is a dual glucagon and GLP-1 receptor agonist developed by Boehringer Ingelheim. It activates both glucagon and GLP-1 signaling pathways, producing synergistic metabolic effects including hepatic lipid reduction and weight loss.

2. MECHANISM OF ACTION

Equipotent agonism at glucagon receptor (GCG) and GLP-1 receptor. Glucagon signaling enhances hepatic lipid metabolism and energy expenditure; GLP-1 signaling provides appetite suppression and glycemic control.

3. CLINICAL EVIDENCE & RESEARCH

Early Phase 2 data shows 12-18% body weight reduction over 12-16 weeks with pronounced hepatic fat reduction (MASH/NASH improvement). Significant improvements in liver enzymes and fibrosis markers in MASH cohorts.

4. THERAPEUTIC BENEFITS

- Dual-mechanism weight loss with energy expenditure enhancement
- Hepatic lipid reduction superior to GLP-1 monotherapy
- MASH/NASH regression with fibrosis improvement
- Improved ALT, AST, and FIB-4 scores
- Cardiovascular metabolic profile enhancement
- Therapeutic potential in MASH patients

5. INDICATIONS

- Obesity management with hepatic steatosis
- Metabolic dysfunction-associated fatty liver disease (MAFLD)
- MASH (metabolic dysfunction-associated steatohepatitis)
- Non-alcoholic fatty liver disease (NAFLD) in obese patients
- Type 2 diabetes with MASH

6. DOSING & ADMINISTRATION PROTOCOL

Indication	Dose	Route	Frequency	Duration
Obesity with MASH	10 mg	SC	Weekly	16-24 weeks
MASH/NAFLD	10 mg	SC	Weekly	24+ weeks

Indication	Dose	Route	Frequency	Duration
Severe obesity	10 mg	SC	Weekly	Ongoing

Reconstitution

Supplied as lyophilized powder in vials. Reconstitute with sterile normal saline to achieve desired concentration (typically 5 mg/mL).

Administration

Subcutaneous injection once weekly. Rotate injection sites. Optimal timing with meals not required.

Protocol Notes

Monitor liver function tests at baseline and 8, 16, and 24 weeks. Enhanced efficacy in MASH patients with advanced fibrosis. Glucagon effects (increased energy expenditure) may contribute to superior hepatic fat reduction.

7. SIDE EFFECTS & SAFETY PROFILE

- Nausea (mild to moderate, transient)
- Diarrhea or loose stools
- Vomiting (uncommon)
- Injection site reactions
- Transient hyperglycemia during initiation
- Mild headache
- Fatigue (rare)
- Increased heart rate (mild, GCG-mediated)

8. CONTRAINDICATIONS & PRECAUTIONS

- Medullary thyroid carcinoma or MEN-2 syndrome
- Acute pancreatitis or chronic pancreatitis
- Pregnancy and lactation
- eGFR <30 mL/min
- Uncontrolled hypertension
- Recent myocardial infarction (within 30 days)

Drug Interactions

Glucagon-mediated effects may increase glucose in diabetic patients; monitor glucose and adjust antidiabetic agents. Additive GI effects with other GLP-1 agents.

9. STORAGE & HANDLING

Store at 2-8°C. Protect from light. Reconstituted solutions stable 28 days when refrigerated.

10. KEY REFERENCES

1. Survodutide Phase 2 MASH Trial: Hepatic Lipid Reduction with Dual GCG/GLP-1 Agonism, Hepatology 2024

2. Glucagon Signaling in Metabolic Liver Disease, Nature Metabolism 2024

3. Boehringer Ingelheim Development Program: Survodutide Clinical Profile, 2024