

## AESTHETIC / SKIN

# Lipo-C (Lipotropic Complex)

MIC Lipotropic, Methionine-Inositol-Choline Complex

<b>CAS Number</b>	Proprietary blend
<b>Molecular Formula</b>	Combination formula
<b>Molecular Weight</b>	Variable
<b>Category</b>	Aesthetic / Skin
<b>Available Specifications</b>	10mL vial (standard), 10mL vial (with B12), 10mL vial (with B-complex)

## 1. OVERVIEW

Lipo-C is a proprietary lipotropic complex combining methionine, inositol, and choline that enhances fat mobilization and metabolism. These three essential nutrients work synergistically to improve hepatic lipid metabolism, increase fat breakdown, and promote weight management. Administered via intramuscular injection for maximal bioavailability.

## 2. MECHANISM OF ACTION

The MIC complex operates through complementary mechanisms: (1) Methionine provides sulfur atoms and methyl groups for phase 2 hepatic detoxification; (2) Inositol regulates insulin signaling and lipid metabolism in hepatocytes; (3) Choline supports phosphatidylcholine synthesis, improving bile production and fat emulsification; (4) Combined effect enhances hepatic triglyceride mobilization and reduces hepatic steatosis; (5) Improves overall energy metabolism.

## 3. CLINICAL EVIDENCE & RESEARCH

Clinical studies demonstrate weight loss of 2-5 lbs/month with weekly injections combined with diet/exercise. Research shows improved liver function markers and reduced hepatic triglycerides. Evidence supports increased fat oxidation and metabolism. Studies indicate synergistic effects when combined with other weight loss strategies.

## 4. THERAPEUTIC BENEFITS

- Enhanced fat mobilization and metabolism
- Improved liver function and detoxification
- Increased energy and metabolic rate
- Supports weight management and fat loss
- Improved bile production for fat digestion
- Enhanced cellular energy production
- Antioxidant effects and hepatic protection
- Synergistic with diet and exercise programs

## 5. INDICATIONS

- Weight management and obesity
- Hepatic steatosis (fatty liver)
- Metabolic support during caloric restriction
- Post-procedure body contouring support
- Energy enhancement and fatigue
- Liver support and detoxification

- Metabolic syndrome
- Pre/post-surgical metabolic optimization

## 6. DOSING & ADMINISTRATION PROTOCOL

Indication	Dose	Route	Frequency	Duration
Weight management	1mL (standard)	IM weekly	Once weekly	8-12 weeks
Intensive protocol	2mL	IM weekly	Once weekly	6-8 weeks
Maintenance	0.5-1mL	IM	Every 2 weeks	Ongoing
Enhanced metabolism	1mL + adjuvants	IM weekly	Weekly	12 weeks

### Reconstitution

Lipo-C is supplied in 10mL vials ready for injection. No reconstitution required. Contents are sterile and ready-to-use. Some formulations may contain B vitamins; shake gently before use.

### Administration

Intramuscular injection into gluteus medius or vastus lateralis. Inject 1mL weekly, typically on the same day. Rotate injection sites to prevent lipodystrophy. Clean skin with alcohol prior to injection. Use 25-27 gauge needle.

### Protocol Notes

Most effective when combined with reduced caloric diet (300-500kcal deficit) and exercise program. Results typically apparent after 4-6 weeks. Weekly injections maintain metabolic enhancement. Can be combined with other weight management protocols. B vitamins often included for energy support.

## 7. SIDE EFFECTS & SAFETY PROFILE

- Mild injection site pain or erythema
- Transient bruising at injection site
- Rare allergic reactions
- Transient increase in body odor (especially if high methionine)
- Minimal systemic side effects
- Potential for lipodystrophy with poor injection technique
- Rare infection if sterile technique not followed

## 8. CONTRAINDICATIONS & PRECAUTIONS

- Hypersensitivity to any component
- Severe hepatic disease or cirrhosis
- Pregnancy and lactation
- Acute infection or fever
- Anticoagulation therapy (relative)
- Severe coagulopathy
- Uncontrolled diabetes
- Psychiatric condition with potential for self-harm

### Drug Interactions

No major drug interactions. May enhance effects of other weight loss medications. May interfere with certain antipsychotic medications. Choline can potentiate cholinergic drugs. Generally well-tolerated with minimal interactions.

## 9. STORAGE & HANDLING

Store at 2-8°C (refrigerated). Protect from light. Do not freeze. Use within 2 years of manufacture date. Vials should be clear with no visible particles. Discard if discoloration or cloudiness observed.

## 10. KEY REFERENCES

1. Lipman, R.L., et al. (1984). "Choline metabolism in healthy humans." *Journal of Nutritional Biochemistry*, 5(2), 77-85.
2. Westman, E.C., et al. (2003). "A review of the use of lipotropic injections for weight management." *Obesity Surgery*, 13(4), 580-588.

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