MK-677 (IBUTAMOREN)

PRODUCT OVERVIEW

Specification	Details
Generic Name	Ibutamoren
Drug Class	Growth Hormone Secretagogue
Active Ingredient	Ibutamoren (MK-677)
Administration Route	Oral
Dosage Form	Oral Compound
Chemical Class	Non-Peptide Growth Hormone Secretagogue
Aromatization	Does not undergo conventional aromatization
Clinical Status	Investigational; not approved as a therapeutic medication

INTRODUCTION

Ibutamoren, commonly known as MK-677, is an orally active growth hormone secretagogue and ghrelin receptor agonist. Unlike selective androgen receptor modulators, Ibutamoren does not primarily act through the androgen receptor. Instead, it mimics some actions of ghrelin and stimulates the release of growth hormone from the pituitary gland.

Research involving MK-677 has focused on:
• Growth hormone secretion
• IGF-1 regulation
• Body composition
• Muscle and bone physiology
• Age-related changes in growth hormone activity

HISTORY

Ibutamoren was developed as an orally active compound capable of stimulating growth hormone secretion through activation of the ghrelin receptor. Early clinical research investigated its ability to increase pulsatile growth hormone secretion and circulating IGF-1 levels without requiring injectable growth hormone administration. Subsequent studies examined MK-677 in areas including aging, muscle mass, bone metabolism, and growth hormone deficiency. Although the compound has generated considerable scientific and commercial interest, Ibutamoren has not been approved as a general therapeutic medication. (pubmed.ncbi.nlm.nih.gov

CHEMICAL STRUCTURE

Ibutamoren is a non-peptide growth hormone secretagogue with a chemical structure distinct from peptide growth hormone therapies.

Its pharmacological activity is primarily associated with agonism of the ghrelin receptor (GHS-R1a) rather than activation of the androgen receptor.

CHEMICAL PROFILE

Parameter	Information
Primary Components	Ibutamoren
Hormone Classification	Growth Hormone Secretagogue
Administration	Oral
Dosage Form	Oral Compound
Receptor Target	Ghrelin Receptor (GHS-R1a)
Chemical Class	Non-Peptide Secretagogue
Alternative Name	Ibutamoren

PHARMACOLOGY

Ibutamoren primarily acts as an agonist of the growth hormone secretagogue receptor (GHS-R1a), the principal receptor through which ghrelin produces many of its endocrine effects.

Activation of this receptor stimulates growth hormone secretion from the pituitary gland and can subsequently increase circulating IGF-1 concentrations.

Unlike anabolic-androgenic steroids and SARMs, Ibutamoren does not directly activate the androgen receptor.

MECHANISM OF ACTION

The principal mechanism involves ghrelin receptor activation.

The general pathway includes:

• Oral absorption
• Systemic distribution
• Binding to GHS-R1a receptors
• Stimulation of pituitary growth hormone secretion
• Increased circulating growth hormone
• Increased hepatic and peripheral IGF-1 signaling
• Modulation of growth hormone–dependent physiological processes

PHARMACODYNAMICS

Ibutamoren influences several physiological systems primarily through stimulation of the growth hormone/IGF-1 axis.

SKELETAL MUSCLE SYSTEM

Anabolic-androgenic steroids interact with androgen receptors in skeletal muscle and may influence:

• Protein metabolism
• Muscle tissue maintenance
• Nitrogen metabolism
• Muscle cell function

Androgen receptor signaling contributes to the regulation of normal skeletal muscle structure and function.

SKELETAL SYSTEM

Androgen receptor signaling contributes to skeletal physiology and may influence:

• Bone remodeling
• Skeletal maintenance
• Bone metabolism
• Structural integrity

CONNECTIVE TISSUE

Androgen receptor signaling may influence connective tissue physiology through:

• Structural protein metabolism
• Tissue maintenance
• Tissue remodeling
• Collagen metabolism

REPRODUCTIVE SYSTEM

Androgenic compounds interact with androgen-sensitive tissues and may influence:

• Hormonal regulation
• Endocrine signaling
• Reproductive physiology
• Androgen-responsive tissues

PHARMACOKINETICS

Ibutamoren is orally active and undergoes gastrointestinal absorption following administration.

Clinical studies have demonstrated sustained pharmacological activity following oral administration, with effects on growth hormone secretion and IGF-1 levels extending beyond the immediate period of administration. The compound undergoes systemic metabolism and elimination through metabolic pathways.

Because Ibutamoren is an investigational compound, pharmacokinetic parameters should be interpreted according to the specific clinical study and formulation.

PHYSIOLOGICAL EFFECTS

Ibutamoren (MK-677) primarily influences the body through stimulation of the growth hormone/IGF-1 axis rather than through direct androgen receptor activation. By activating the ghrelin receptor, it can increase growth hormone secretion and subsequently elevate circulating IGF-1 levels. These hormonal changes may influence protein metabolism, muscle tissue maintenance, connective tissue physiology, bone remodeling, and broader metabolic processes.

Research has also demonstrated effects on appetite and energy metabolism, which are consistent with the relationship between ghrelin signaling and feeding behavior. However, increased growth hormone and IGF-1 activity does not automatically translate into proportional increases in muscle mass or physical performance, and clinical responses can vary considerably. Because MK-677 remains investigational, its long-term physiological effects and overall safety profile have not been fully established.

CLINICAL APPLICATIONS

Ibutamoren has been investigated primarily as an experimental growth hormone secretagogue for conditions associated with reduced growth hormone activity and changes in body composition. Clinical research has examined its potential effects on growth hormone secretion, IGF-1 concentrations, lean body mass, bone metabolism, and age-related changes in the growth hormone axis.

Investigational areas have included:
• Growth hormone deficiency
• Age-related decline in growth hormone secretion
• Loss of lean body mass
• Bone metabolism• Physical function

Despite these investigations, Ibutamoren has not been established as an approved general therapeutic medication.

SAFETY CONSIDERATIONS

The use of anabolic-androgenic steroids may require consideration of cardiovascular, hematological, hepatic, endocrine, metabolic, and reproductive health.

Important safety considerations include:

• Cardiovascular health
• Blood pressure
• Hematological parameters
• Lipid profile
• Liver function
• Endocrine function
• Reproductive function
• Prostate health

The overall safety profile depends on the specific compound, formulation, concentration, duration of exposure, individual response, and patient characteristics. Appropriate medical evaluation and regular monitoring should be considered when clinically indicated.

POTENTIAL ADVERSE EFFECTS

Potential adverse effects associated with anabolic-androgenic steroid exposure may involve endocrine, cardiovascular, hematological, hepatic, dermatological, reproductive, and metabolic systems.

Endocrine Effects
• Suppression of endogenous hormone production
• Alterations in hormonal balance
• Changes in reproductive hormone signaling
• Potential suppression of spermatogenesis

Cardiovascular Effects
• Changes in lipid profile
• Possible increases in blood pressure
• Potential cardiovascular risk

Hematological Effects
• Changes in hematocrit
• Changes in hemoglobin
• Possible increase in erythropoietic activity

Dermatological Effects
• Acne
• Increased sebaceous activity
• Androgen-related hair loss in genetically predisposed individuals

Reproductive Effects
• Changes in reproductive function
• Potential reduction in fertility
• Alterations in reproductive hormone regulation

Hepatic & Metabolic Effects
• Changes in liver function parameters
• Alterations in metabolic markers
• Changes in glucose and lipid metabolism

The occurrence and severity of adverse effects vary according to the specific compound, formulation, exposure, duration of use, individual response, and patient characteristics.

CONTRAINDICATIONS

Condition	Reason
Severe hepatic disease	Increased hepatic risk
Hormone-sensitive cancers	Androgen receptor sensitivity
Pregnancy	Potential risk of fetal development
Known hypersensitivity	Allergic reaction
Significant cardiovascular disease	Potential cardiovascular effects

DRUG INTERACTIONS

A comprehensive interaction profile may not be established for every anabolic-androgenic steroid or formulation.

Potential interactions or clinical considerations may exist with:
• Anticoagulants
• Antidiabetic medications
• Hepatotoxic medications
• Other anabolic-androgenic steroids
• Other hormonal therapies
• Drugs affecting lipid metabolism

The clinical significance of potential interactions depends on the specific compound, formulation, dosage, duration of exposure, concomitant medications, and individual patient characteristics. Appropriate medical evaluation should be considered when multiple medications or hormonal therapies are used concurrently.

LABORATORY MONITORING

Laboratory Test	Purpose
CBC	Monitor hematological parameters
ALT / AST	Liver function
Bilirubin	Hepatic assessment
Lipid Profile	Cardiovascular risk assessment
Blood Pressure	Cardiovascular monitoring
Total Testosterone	Assess androgen status
LH / FSH	Assess endocrine suppression

STORAGE & STABILITY

* Store according to official product labeling.
* Protect from excessive heat and direct sunlight.
* Do not freeze.
* Maintain original packaging integrity.
* Keep away from children.
* Inspect packaging before use.

PRODUCT AUTHENTICITY

Every genuine NEXON product should include appropriate quality verification features.

Authentication may include:

* Batch number tracking
* Manufacturing information
* Expiration date verification
* QR authentication system
* Authorized distribution verification

NEXON emphasizes transparency, traceability, and product quality control.

FREQUENTLY ASKED QUESTIONS

What is MK-677?
MK-677 is the development code for Ibutamoren, an orally active growth hormone secretagogue and ghrelin receptor agonist.

Is MK-677 a SARM?
No. Ibutamoren is not a SARM. It primarily acts through the ghrelin receptor and stimulates the growth hormone/IGF-1 axis.

Is MK-677 a steroid?
No. Ibutamoren is a non-steroidal compound and does not directly activate the androgen receptor.

Is MK-677 oral or injectable?
MK-677 is an orally administered compound.

Does MK-677 increase growth hormone?
Yes. Clinical research has demonstrated increased growth hormone secretion and increased circulating IGF-1 following administration.

Can MK-677 affect appetite?
Yes. Because it acts through the ghrelin receptor, increased appetite is a recognized pharmacological effect.

NEXON QUALITY COMMITMENT

NEXON is committed to maintaining high standards of manufacturing quality, product consistency, traceability, and scientific transparency.

Through quality control systems, authentication procedures, and responsible information sharing, NEXON aims to provide reliable pharmaceutical products and educational resources for healthcare professionals and informed users.

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