

NANDROLONE UNDECANOATE

PRODUCT OVERVIEW

Specification	Details
Generic Name	Nandrolone Undecanoate
Drug Class	Anabolic Androgenic Steroid (AAS)
Active Ingredient	Nandrolone Undecanoate
Chemical Formula	C ₂₅ H ₄₆ O ₃
Molecular Weight	442.68 g/mol
Administration Route	Intramuscular Injection
Ester Type	Very Long-Acting Nandrolone Ester
Approximate Half-Life	Approximately 10–16 Days (Estimated Based on Ester Characteristics)
Release Profile	Very Slow and Prolonged Release
Bioavailability	High After Intramuscular Administration
Primary Medical Use	Treatment of selected anemia disorders, osteoporosis, and conditions associated with protein catabolism under medical supervision



INTRODUCTION

Nandrolone Undecanoate is a very long-acting esterified form of nandrolone developed to provide prolonged hormone availability following intramuscular administration. Nandrolone is a synthetic anabolic androgenic steroid structurally related to testosterone but characterized by the absence of a carbon atom at the 19th position, resulting in the designation 19-nortestosterone. The undecanoate ester possesses a longer carbon chain than the decanoate ester, increasing lipophilicity and slowing absorption from the intramuscular depot. This results in gradual release of free nandrolone into systemic circulation over an extended period. Although Nandrolone Undecanoate has received considerably less clinical investigation than Nandrolone Decanoate or Nandrolone Phenylpropionate, its pharmacokinetic profile is expected to provide prolonged hormone exposure consistent with other undecanoate esters. Its prolonged release characteristics make it a compound of pharmacological interest for long-acting androgen delivery systems.



HISTORY

Following the development of Nandrolone Decanoate and shorter nandrolone esters, pharmaceutical research explored longer ester chains to further extend hormone release after intramuscular administration.

Undecanoate esterification was investigated as a strategy to increase lipophilicity, prolong depot residence time, and reduce the frequency of hormone release.

Compared with established nandrolone esters, published scientific information regarding Nandrolone Undecanoate remains limited, and available pharmacological knowledge is primarily derived from ester chemistry and the known behavior of other long-chain steroid esters.

Research involving long-acting nandrolone esters has contributed to the understanding of:

- * Steroid ester pharmacokinetics
- * Long-acting hormone delivery systems
- * Depot injection technology
- * Endocrine pharmacology



CHEMICAL STRUCTURE

Nandrolone Undecanoate consists of the nandrolone molecule esterified with undecanoic acid at the 17-beta hydroxyl position.

The undecanoate ester significantly increases lipophilicity, slowing release from the intramuscular depot while preserving the biological activity of nandrolone following enzymatic hydrolysis.

The undecanoate ester primarily influences:

- * Absorption rate
- * Release duration
- * Plasma availability
- * Pharmacokinetic characteristics

Following enzymatic cleavage of the ester bond, free nandrolone becomes biologically active and interacts with androgen receptors in multiple tissues.



CHEMICAL PROFILE

Parameter	Information
Chemical Name	Nandrolone Undecanoate
Hormone Classification	Anabolic Androgenic Steroid
Ester Group	Undecanoate
Active Hormone	Nandrolone
Ester Length	Very Long
Ester Length	Intramuscular Injection
Pharmacokinetic Profile	Extended Release



PHARMACOLOGY

Following intramuscular administration, Nandrolone Undecanoate forms a persistent depot within muscle tissue.

The undecanoate ester undergoes gradual enzymatic hydrolysis, releasing free nandrolone into systemic circulation over an extended period.

Due to its long ester chain, hormone release is expected to occur more slowly than with Nandrolone Decanoate and substantially more slowly than with Nandrolone Phenylpropionate.

Once released, nandrolone interacts with androgen receptors located throughout numerous tissues including:

- * Skeletal muscle
- * Bone
- * Bone marrow
- * Connective tissue
- * Skin
- * Liver
- * Reproductive tissues

Nandrolone also undergoes metabolic conversion into biologically active metabolites.

Conversion Pathway	Enzyme	Product
Nandrolone → DHN	5-alpha reductase	Dihydronandrolone
Nandrolone → Estradiol	Aromatase	Estradiol (Low Rate)



MECHANISM OF ACTION

Nandrolone produces its biological effects primarily through activation of intracellular androgen receptors.

The biological process includes:

- * Nandrolone enters target cells.
- * Nandrolone binds to androgen receptors.
- * The receptor-hormone complex becomes activated.
- * The activated complex translocates into the cell nucleus.
- * Interaction with androgen response elements occurs on DNA.
- * Gene transcription is regulated.
- * Cellular protein synthesis and tissue-specific physiological responses are influenced.

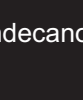
Activation of androgen receptors contributes to:

- * Protein synthesis
- * Nitrogen retention
- * Muscle tissue maintenance
- * Bone remodeling
- * Red blood cell production
- * Connective tissue physiology
- * Endocrine regulation



PHARMACODYNAMICS

Nandrolone Undecanoate affects multiple physiological systems through androgen receptor signaling.

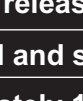


SKELETAL MUSCLE SYSTEM

Nandrolone contributes to normal muscle physiology through:

- * Regulation of protein synthesis
- * Support of muscle tissue maintenance
- * Influence on nitrogen retention
- * Regulation of muscle cell function

Androgen receptor activation plays an important role in maintaining skeletal muscle structure and physiological function.



SKELETAL SYSTEM

Nandrolone contributes to skeletal health by influencing:

- * Bone mineral density
- * Bone remodeling processes
- * Osteoblast activity
- * Skeletal maintenance

Nandrolone has been extensively investigated for its effects on bone metabolism and connective tissue physiology.



HEMATOLOGICAL SYSTEM

Nandrolone influences erythropoiesis, the physiological process responsible for red blood cell production.

Physiological effects include:

- * Regulation of erythropoietin activity
- * Support of red blood cell formation
- * Influence on oxygen transport capacity



CONNECTIVE TISSUE

Nandrolone contributes to connective tissue physiology by influencing:

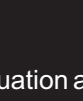
- * Collagen synthesis
- * Connective tissue maintenance
- * Structural protein metabolism
- * Tissue remodeling



REPRODUCTIVE SYSTEM

Nandrolone interacts with androgen-sensitive tissues and contributes to:

- * Hormonal regulation
- * Maintenance of androgen-responsive tissues
- * Endocrine signaling
- * Reproductive physiology



PHARMACOKINETICS

Following intramuscular administration, Nandrolone Undecanoate forms a persistent intramuscular depot that gradually releases active hormone into systemic circulation.

Because of its longer undecanoate ester chain, absorption is expected to occur more slowly than with Nandrolone Decanoate, resulting in prolonged hormone exposure and sustained plasma concentrations.

Published pharmacokinetic data for Nandrolone Undecanoate remain limited. The expected release characteristics are primarily based on established steroid ester pharmacology and the known behavior of other undecanoate esters.



PHARMACOKINETIC PROFILE

Parameter	Description
Ester Type	Very Long-Acting Nandrolone Ester
Absorption	Very slow release from intramuscular depot
Release Pattern	Prolonged and sustained release
Half-Life	Approximately 10–16 Days (Estimated)
Duration of Activity	Very Long-Acting
Plasma Stability	Very High
Protein Binding	High
Metabolism	Primarily hepatic
Active Hormone	Nandrolone
Elimination	Urinary excretion of metabolites



PHYSIOLOGICAL EFFECTS

Normal nandrolone activity contributes to:

Muscle Function

- * Protein synthesis
- * Nitrogen retention
- * Maintenance of lean body tissue
- * Muscle physiology

Bone Health

- * Bone remodeling
- * Mineral density maintenance
- * Skeletal integrity

Connective Tissue

- * Collagen synthesis
- * Connective tissue maintenance
- * Structural support

Hematological Function

- * Red blood cell production
- * Oxygen transport support
- * Normal erythropoiesis

General Physiology

- * Protein metabolism
- * Hormonal regulation
- * Endocrine function



CLINICAL APPLICATIONS

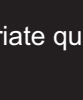
Nandrolone Undecanoate has primarily been investigated as a long-acting nandrolone ester intended to provide prolonged hormone availability.

Clinical evaluation may include:

- * Medical history
- * Physical examination
- * Laboratory assessment
- * Individual therapeutic evaluation

Potential medical applications include:

- * Selected anemia disorders
- * Osteoporosis
- * Conditions associated with protein catabolism
- * Selected chronic disease management



SAFETY CONSIDERATIONS

Nandrolone therapy requires individualized medical evaluation and regular monitoring.

Important considerations include:

- * Cardiovascular health
- * Blood parameters
- * Endocrine function
- * Liver and kidney function
- * Lipid profile
- * Individual therapeutic response



POTENTIAL ADVERSE EFFECTS

Possible adverse effects may include:

Endocrine Effects

- * Suppression of endogenous testosterone production
- * Hormonal imbalance
- * Alterations in endocrine function

Dermatological Effects

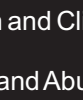
- * Acne
- * Increased skin oil production
- * Hair loss in genetically predisposed individuals

Cardiovascular Effects

- * Changes in lipid profile
- * Increased hematocrit
- * Fluid retention

Reproductive Effects

- * Reduced fertility
- * Suppression of spermatogenesis
- * Hormonal suppression



CONTRAINDICATIONS

Condition	Reason
Prostate Cancer	Potential androgen sensitivity
Male Breast Cancer	Hormone-sensitive condition
Pregnancy	Risk of fetal virilization
Severe Untreated Medical Conditions	Requires medical evaluation
Known Hypersensitivity	Risk of allergic reaction

DRUG INTERACTIONS

Potential interactions may occur with:

Anticoagulants
Nandrolone may influence anticoagulant response and require monitoring.

Antidiabetic Medications
Changes in glucose metabolism may alter therapeutic requirements.

Corticosteroids
Combined administration may increase fluid retention.

Other Hormonal Therapies
Combined hormonal therapy requires professional medical supervision.

LABORATORY MONITORING

Laboratory Test	Purpose
CBC	Assess blood parameters
Hematocrit	Monitor red blood cell concentration
Hemoglobin	Evaluate erythropoiesis
Liver Function Tests	Assess hepatic health
Kidney Function Tests	Evaluate renal function
Lipid Profile	Monitor cardiovascular risk markers
Total Testosterone	Evaluate endocrine status
Estradiol (E2)	Assess estrogen balance
PSA (When Appropriate)	Monitor prostate health

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 Nandrolone Undecanoate?
Nandrolone Undecanoate is a very long-acting esterified form of nandrolone designed to provide prolonged hormone availability following intramuscular administration.

How is Nandrolone Undecanoate different from Nandrolone Decanoate?
Nandrolone Undecanoate contains a longer ester chain than Nandrolone Decanoate and is expected to provide slower hormone release and a longer duration of activity. Published pharmacokinetic data remain limited.

What is the active hormone released after ester hydrolysis?
After enzymatic cleavage, the active hormone released is nandrolone (19-nortestosterone).

Why are nandrolone esters used?
Esterification modifies the pharmacokinetic profile of nandrolone by controlling hormone release and influencing the duration of biological activity.

Is Nandrolone Undecanoate identical to testosterone?
No. Nandrolone is a structurally modified androgen derived from testosterone by removal of the carbon atom at the 19th position, resulting in distinct pharmacological properties.

NEXON QUALITY COMMITMENT

NEXON is committed to maintaining the highest standards of manufacturing quality, product consistency, traceability, and scientific integrity.

Through advanced quality control systems, authentication technologies, and evidence-based pharmaceutical development, NEXON strives to provide reliable products supported by scientific transparency and regulatory standards.

SCIENTIFIC REFERENCES

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