STANOZOLOL

PRODUCT OVERVIEW

Specification	Details
Generic Name	Stanozolol
Drug Class	Anabolic Androgenic Steroid (AAS)
Active Ingredient	Stanozolol
Chemical Formula	$C_{21}H_{32}N_2O$
Molecular Weight	328.49 g/mol
Administration Route	Oral Administration / Intramuscular Injection (Aqueous Suspension)
Ester Type	Non-Esterified Pyrazole-Derived Dihydrotestosterone (DHT) Derivative
Approximate Half-Life	Oral: Approximately 8–9 Hours • Injectable Suspension: Approximately 24 Hours
Release Profile	Rapid Systemic Availability
Bioavailability	High Following Oral Administration
Primary Medical Use	Approved in selected countries for hereditary angioedema and historically investigated for selected catabolic conditions

INTRODUCTION

Stanozolol is a synthetic anabolic androgenic steroid structurally derived from dihydrotestosterone (DHT).Unlike esterified injectable anabolic steroids, stanozolol is a non-esterified compound available in both oral tablets and aqueous intramuscular suspension.Its unique pyrazole ring modification differentiates it from most other anabolic steroids and contributes to its distinct pharmacological characteristics.As a DHT derivative, stanozolol does not undergo aromatization to estrogen and demonstrates pharmacological properties that differ from testosterone-derived anabolic steroids.Stanozolol has been extensively investigated in clinical medicine and sports pharmacology due to its oral bioavailability, injectable formulation, and well-characterized anabolic profile.

HISTORY

Stanozolol was developed during pharmaceutical research aimed at producing an orally active anabolic steroid with improved anabolic properties and reduced estrogenic activity.

Following its introduction into clinical medicine, stanozolol was investigated for hereditary angioedema, selected catabolic disorders, tissue wasting, and disorders affecting connective tissue metabolism.

Its extensive scientific evaluation has contributed significantly to research involving:

Endocrine pharmacology
Connective tissue physiology
Protein metabolism
Sports medicine

CHEMICAL STRUCTURE

Stanozolol is a synthetic derivative of dihydrotestosterone containing a fused pyrazole ring and a 17-alpha alkyl modification that enhances oral bioavailability.

Unlike esterified anabolic steroids, stanozolol does not require enzymatic ester hydrolysis before becoming biologically active.

Its molecular structure primarily influences:

Oral bioavailability
Metabolic stability
Androgen receptor affinity
Pharmacokinetic characteristics

Following oral administration or intramuscular injection, biologically active stanozolol becomes available to interact with androgen receptors throughout the body.

CHEMICAL PROFILE

Parameter	Information
Chemical Name	Stanozolol
Molecular Formula	$C_{21}H_{32}N_2O$
Molecular Weight	328.49 g/mol
Hormone Classification	Anabolic Androgenic Steroid
Ester Group	None (17α-Alkylated DHT Derivative)
Active Hormone	Stanozolol

PHARMACOLOGY

Following oral administration or intramuscular injection, stanozolol is absorbed into systemic circulation without requiring ester hydrolysis.

Once absorbed, stanozolol binds to androgen receptors located throughout multiple tissues including:

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

As a dihydrotestosterone derivative, stanozolol does not undergo aromatization into estradiol.

Conversion Pathway	Enzyme	Product
Stanozolol → Hepatic Metabolites	Hepatic Enzymes	Inactive Metabolites
Aromatization	Aromatase	No Significant Conversion

MECHANISM OF ACTION

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

The biological process includes:

* Stanozolol enters target cells.
* Stanozolol 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

Stanozolol affects multiple physiological systems through androgen receptor signaling.

SKELETAL MUSCLE SYSTEM

Stanozolol contributes to normal muscle physiology through:

* Regulation of protein metabolism
* Support of muscle tissue maintenance
* Influence on nitrogen balance
* Regulation of muscle cell function

Stanozolol interacts with androgen receptors, contributing to anabolic activity in androgen-responsive tissues.

SKELETAL SYSTEM

Stanozolol contributes to skeletal physiology by influencing:

* Bone remodeling
* Osteoblast activity
* Skeletal maintenance
* Bone mineral metabolism

CONNECTIVE TISSUE

Stanozolol contributes to skeletal physiology by influencing:

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

REPRODUCTIVE SYSTEM

Stanozolol interacts with androgen-sensitive tissues and contributes to:

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

PHARMACOKINETICS

Following oral administration or intramuscular injection, stanozolol is rapidly absorbed into systemic circulation without requiring ester hydrolysis.

The oral formulation exhibits rapid gastrointestinal absorption, while the aqueous injectable suspension provides sustained absorption from the intramuscular injection site despite containing no ester.

Both formulations deliver biologically active stanozolol directly into systemic circulation.

PHARMACOKINETIC PROFILE

Parameter	Description
Ester Type	None (17α-Alkylated DHT Derivative)
Absorption	Rapid gastrointestinal absorption
Release Pattern	Gradual release from aqueous suspension
Half-Life	Approximately 8–9 Hours
Duration of Activity	Approximately 24 Hours
Plasma Stability	Moderate
Protein Binding	High
Metabolism	Primarily hepatic
Active Hormone	Stanozolol
Elimination	Urinary excretion of metabolites

PHYSIOLOGICAL EFFECTS

Normal stanozolol activity contributes to:

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

Bone Health
* Bone remodeling
* Skeletal maintenance
* Bone metabolism

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

Hematological Function
* Red blood cell production
* Oxygen transport support
* Normal erythropoiesis

CLINICAL APPLICATIONS

Stanozolol has been investigated and utilized for selected medical conditions involving hereditary angioedema, impaired protein metabolism, and selected catabolic disorders.

Clinical evaluation may include:

* Medical history
* Physical examination
* Laboratory assessment
* Individual pharmacological evaluation

Historical and investigational applications include:

- Hereditary angioedema
- Selected catabolic disorders
- Protein metabolism disorders
- Endocrine pharmacology research

SAFETY CONSIDERATIONS

Stanozolol therapy requires individualized medical evaluation and regular monitoring.

Important considerations include:

* Cardiovascular health
* Blood parameters
* Endocrine function
* Liver and kidney function
* Lipid profile
* Individual physiological 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 blood pressure

Hepatic Effects
- Elevation of liver enzymes
- Hepatic stress associated with 17α-alkylated oral administration

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 Cardiac, Hepatic or Renal Disease	Requires specialist evaluation
Known Hypersensitivity	Risk of allergic reaction

DRUG INTERACTIONS

Potential interactions may occur with:

Anticoagulants
Stanozolol may influence anticoagulant response and require monitoring.

Antidiabetic Medications
Changes in glucose metabolism may alter therapeutic requirements.

Corticosteroids
Combined administration may influence fluid balance and metabolic parameters.

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 hormonal 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 Stanozolol?
Stanozolol is a synthetic anabolic androgenic steroid derived from dihydrotestosterone (DHT), available in both oral and injectable formulations.

Does Stanozolol convert to estrogen?
No. Stanozolol is a DHT-derived anabolic steroid and is not a substrate for aromatase; therefore, it does not undergo meaningful conversion to estradiol.

Why is Stanozolol available as both an oral and injectable product?
Unlike most injectable anabolic steroids, injectable stanozolol is formulated as an aqueous suspension rather than an esterified oil solution, allowing administration without esterification.

What medical conditions has Stanozolol been used to treat?
Stanozolol has been approved or investigated for hereditary angioedema and has also been studied in selected catabolic disorders and conditions affecting protein metabolism.

Is Stanozolol hepatotoxic?
The oral formulation contains a 17α-alkyl modification that may increase hepatic stress. Liver function monitoring is recommended during therapy.

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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