ANDARINE (S-4)

PRODUCT OVERVIEW

Specification	Details
Generic Name	Andarine
Drug Class	Selective Androgen Receptor Modulator (SARM)
Active Ingredient	Andarine (S-4)
Administration Route	Oral
Dosage Form	Oral Compound
Composition	Non-Steroidal SARM
Aromatization	Does not aromatize to estrogen
Clinical Status	Investigational; not approved as a general therapeutic medication

INTRODUCTION

Andarine, also known as S-4 and GTx-007, is a non-steroidal selective androgen receptor modulator developed to selectively activate androgen receptors in androgen-responsive tissues.

Unlike conventional anabolic-androgenic steroids, Andarine does not possess the characteristic four-ring steroid structure. Its development focused on producing anabolic activity in tissues such as skeletal muscle and bone while providing a more selective androgen receptor profile.

Andarine remains an investigational compound and is not an approved general therapeutic medication. The FDA lists Andarine (S-4/GTx-007) among SARMs and identifies SARMs as unapproved drugs.

HISTORY

Andarine was developed during pharmaceutical research into selective androgen receptor modulators as part of efforts to identify compounds capable of producing androgen receptor–mediated anabolic effects without the structure of traditional anabolic steroids. Research into Andarine focused particularly on androgen receptor activity, skeletal muscle, bone, and other androgen-responsive tissues. The compound subsequently became known as S-4 or GTx-007 and has also appeared in the non-approved bodybuilding and research-compound market. Despite its research history, Andarine has not progressed to an approved general therapeutic medicine and remains classified as an investigational SARM.

CHEMICAL STRUCTURE

Andarine is a non-steroidal selective androgen receptor modulator and does not contain the conventional steroid nucleus found in testosterone and anabolic-androgenic steroids.

Its molecular structure was designed to interact with androgen receptors and produce receptor-mediated activity in androgen-responsive tissues.

Andarine does not undergo conventional aromatization to estradiol.

CHEMICAL PROFILE

Parameter	Information
Primary Components	Andarine
Hormone Classification	Selective Androgen Receptor Modulator
Administration	Oral
Dosage Form	Oral Compound
Development Code	S-4 / GTx-007
Chemical Class	Non-Steroidal SARM
Aromatization	Does not aromatize

PHARMACOLOGY

Andarine primarily produces its biological activity through interaction with the androgen receptor (AR).

Following oral administration, the compound enters systemic circulation and interacts with androgen receptors in androgen-responsive tissues.

Its pharmacological development focused on selective androgen receptor activation and potential anabolic activity in tissues such as:

- Skeletal muscle
- Bone
- Other androgen-responsive tissues

Unlike testosterone, Andarine does not undergo conventional aromatization to estrogen.

MECHANISM OF ACTION

The principal mechanism involves selective activation of the androgen receptor.

The general pathway includes:

- Oral absorption
- Systemic distribution
- Binding to androgen receptors
- Formation of receptor-ligand complexes
- Nuclear translocation
- Interaction with androgen-responsive elements
- Regulation of gene transcription
- Modulation of androgen-responsive cellular processes

PHARMACODYNAMICS

Andarine produces its biological activity primarily through androgen receptor signaling.

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

Andarine is an orally administered compound that undergoes gastrointestinal absorption followed by systemic distribution.

After entering circulation, the compound is distributed to androgen-responsive tissues and interacts with androgen receptors. It subsequently undergoes metabolic processing through enzymatic pathways, with metabolites ultimately eliminated from the body.

Precise human pharmacokinetic parameters for Andarine are limited compared with approved pharmaceutical medicines, and reliable clinical values should therefore be interpreted cautiously.

PHYSIOLOGICAL EFFECTS

Andarine (S-4) acts primarily through selective androgen receptor activation and has been investigated for its potential effects on skeletal muscle, bone, and other androgen-responsive tissues. Its receptor activity may influence protein metabolism, maintenance of lean tissue, muscle function, and skeletal remodeling. These characteristics formed the basis for research into SARMs as potential alternatives to conventional androgenic compounds.

Despite its selective mechanism, Andarine can produce systemic physiological effects. Androgen receptor activation may influence the hypothalamic-pituitary-gonadal axis and potentially alter endogenous androgen production and reproductive hormone signaling. Because Andarine remains an investigational compound, its complete long-term physiological profile has not been established. A particularly important safety consideration is its association with visual disturbances, which has been reported as a characteristic concern with Andarine/S-4.

CLINICAL APPLICATIONS

Andarine has been investigated as an experimental selective androgen receptor modulator, with research focusing on its potential anabolic effects on skeletal muscle and bone tissue.

Potential research areas have included:

- Muscle wasting
- Loss of lean body mass
- Skeletal muscle physiology
- Bone metabolism
- Androgen receptor research

However, Andarine has not been established as an approved general therapeutic treatment. The FDA currently lists Andarine as an unapproved SARM and has warned consumers about the potential serious health risks associated with SARMs.

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 Andarine?
Andarine is a non-steroidal selective androgen receptor modulator commonly identified as S-4.

What are the other names for Andarine?
Andarine is also known as S-4 and GTx-007.

Is Andarine a steroid?
No. Andarine is a non-steroidal SARM and does not have the conventional steroid structure of testosterone.

Is Andarine oral or injectable?
Andarine is an orally administered compound.

Does Andarine aromatize?
Andarine does not undergo conventional aromatization to estrogen.

Can Andarine affect natural testosterone production?
Yes. Systemic androgen receptor activation may influence the hypothalamic-pituitary-gonadal axis and endogenous androgen production.

What is the main characteristic concern associated with Andarine?
Visual disturbances are a particularly notable concern associated with Andarine/S-4.

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.

SCIENTIFIC REFERENCES

*Kicman AT. Pharmacology of Anabolic Steroids.

* Basaria S. Androgen Abuse in Athletes: Detection and Consequences.

* Handelsman DJ. Androgen Physiology and Pharmacology.

* Shahidi NT. Chemistry, Biological Action and Clinical Applications of Anabolic-Androgenic Steroids.

* Llewellyn W. Anabolics.

* Evans NA. Current Concepts in Anabolic-Androgenic Steroids.

* Kochakian CD. Anabolic-Androgenic Steroids.

* Nieschlag E, Behre HM. Andrology: Male Reproductive Health and Dysfunction.

* Kicman AT, Gower DB. Anabolic Steroids in Sport and Exercise.

* Wilson JD. Androgen Physiology and Pharmacology.