

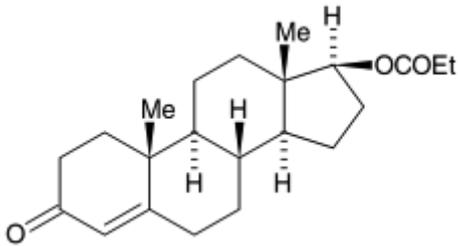
PRODUCT INFORMATION

SUSTANON[®] '250'

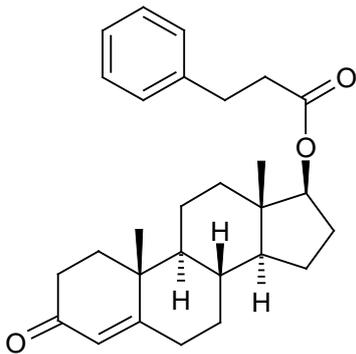
NAME OF THE MEDICINE

Sustanon '250' ('250' mg/mL for injection): testosterone propionate, testosterone phenylpropionate, testosterone isocaproate, testosterone decanoate.

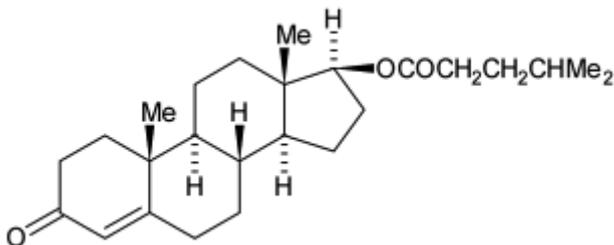
Testosterone Propionate: Testosterone Propionate is 3-oxoandrost-4-en-17 β -yl propionate.



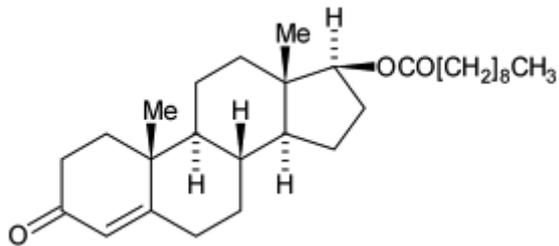
Testosterone Phenylpropionate: Testosterone Phenylpropionate is 3-oxoandrost-4-en-17 β -yl 3-phenylpropionate.



Testosterone Isocaproate: Testosterone Isocaproate is 3-oxoandrost-4-en-17 β -yl 4-methylpentanoate.



Testosterone Decanoate: Testosterone Decanoate is 3-oxoandrost-4-en-17 β -yl-decanoate.



Sustanon '250' is an androgenic solution for intra-muscular injection.

DESCRIPTION

Testosterone propionate, testosterone phenylpropionate, testosterone isocaproate and testosterone decanoate are all white to creamy white crystals or powder. They are practically insoluble in water but are soluble in chloroform, ethanol and fixed oils. They have melting points in excess of 50°C. They are prepared synthetically from plant origins. They are fatty acid esters of the naturally occurring androgen testosterone.

Sustanon '250' is a clear, colourless glass vial containing 1 mL of pale yellow oily solution.

Composition

Active

Each vial of Sustanon '250' contains 30 mg testosterone propionate, 60 mg testosterone phenylpropionate, 60 mg testosterone isocaproate and 100 mg testosterone decanoate in 1 mL arachis oil. All 4 compounds are esters of the natural hormone testosterone. The total amount of testosterone per mL is 176 mg.

Inactive excipients

Arachis (peanut) oil; benzyl alcohol (10%).

Pharmacotherapeutic group: androgens. ATC code G03B A03

PHARMACOLOGY

Pharmacodynamic properties

Treatment of hypogonadal men with Sustanon results in a clinically significant rise of plasma concentrations of testosterone, dihydrotestosterone, oestradiol and androstenedione, as well as a decrease of SHBG (sex hormone binding globulin). Luteinising hormone (LH) and follicle-stimulating hormone (FSH) are restored to the normal range. In hypogonadal men, treatment with Sustanon results in an improvement of testosterone deficiency symptoms. Moreover, treatment increases bone mineral density and lean body mass, and decreases body fat mass. Treatment also improves sexual function, including libido and erectile function. Treatment decreases serum LDL-C, HDL-C and triglycerides, increases haemoglobin and hematocrit, whereas no clinically relevant changes to PSA have been reported. Treatment may result in an increase in prostate size, but no adverse effects on prostate symptoms have been observed. In hypogonadal diabetic patients, improvements of insulin sensitivity and/or reduction in blood glucose have been reported with the use of androgens.

In female to male transsexuals treatment with androgens/Sustanon induces masculinisation.

Pharmacokinetic properties

Sustanon '250' contains 4 esters of testosterone with different duration of action. The esters are hydrolysed into the natural hormone testosterone as soon as they enter the general circulation.

A single dose of Sustanon '250' leads to an increase of total plasma testosterone with peak-levels of approximately 70 nmol/L (C_{max}), which are reached approximately 24-48 h (t_{max}) after administration. Plasma testosterone levels return to the lower limit of the normal range in males in approximately 21 days.

Distribution

Testosterone displays high binding (over 97%) to plasma proteins and sex hormone binding globulin.

Biotransformation

Testosterone is metabolized to dihydrotestosterone and oestradiol, which are further metabolised via the normal pathways.

Elimination

Excretion mainly takes place via the urine as conjugates of etiocholanolone and androsterone.

INDICATIONS

Androgen replacement therapy for confirmed testosterone deficiency in males.

CONTRAINDICATIONS

- History or presence of prostate or breast cancer
- Hypercalcaemia and/or hypercalciuria
- Hypersensitivity to the active substances *or* any of the excipients, including arachis oil. Sustanon is therefore contraindicated in patients allergic to peanuts or soya (see **PRECAUTIONS**).

PRECAUTIONS

Special warnings and precautions for use

Physicians should consider monitoring subjects receiving Sustanon before the start of treatment, at quarterly intervals for the first 12 months and yearly thereafter for the following parameters:

- Digital rectal examination (DRE) of the prostate and PSA to exclude benign prostate hyperplasia or a sub-clinical prostate cancer
- Hematocrit and haemoglobin to exclude polycythaemia
- The misuse of androgens to enhance ability in sports carries serious health risks and is to be discouraged.
- If androgen-associated adverse reactions occur, Sustanon treatment should be interrupted and, upon resolution of the complaints, be resumed at a lower dosage.
- In patients with pre-existing cardiac, renal or hepatic disease androgen treatment may cause complications characterized by oedema with or without congestive heart failure.

- In prepubertal children statural growth and sexual development should be monitored since androgens in general and Sustanon in high doses may accelerate epiphyseal closure and sexual maturation.
- In prepubertal boys androgens may cause accelerated bone maturation without compensatory gain in linear growth. This may compromise adult stature; younger the patient, higher the risk. Effect on bone maturation should be monitored by assessing bone age of wrist and hand every 6 months.
- Risk of developing prostatic hypertrophy and prostatic carcinoma may be increased in geriatric patients receiving androgens.
- Ischaemic heart disease as androgens may produce hypercholesterolaemia.
- Urethral obstruction in patients with benign prostatic hypertrophy receiving testosterone.
- Androgens in general and Sustanon can improve glucose tolerance and anticoagulant action (see also **Interactions with other medication and other forms of interaction**).
- There is insufficient evidence for a recommendation regarding the safety of treatment with testosterone esters in men with sleep apnoea. Good clinical judgement and caution should be employed in subjects with risk factors such as adiposity or chronic lung disease.
- Safety and efficacy have not been adequately determined in children.
- Sustanon contains 100 mg benzyl alcohol per mL solution and must not be given to children under 3 years of age, including premature babies or neonates. Benzyl alcohol may cause toxic reactions and anaphylactoid reactions in infants and children up to 3 years old.
- Sustanon contains arachis (peanut) oil and should not be taken/ applied by patients known to be allergic to peanut. As there is a possible relationship between allergy to peanut and allergy to soya, patients with soya allergy should also avoid Sustanon (see **CONTRAINDICATIONS**).

Use in pregnancy (Category D)

There are no adequate data for the use of Sustanon in pregnant women. In view of the risk of virilisation of the foetus, Sustanon should not be used during pregnancy. Treatment with Sustanon should be discontinued when pregnancy occurs.

Use in lactation

There are no adequate data for the use of Sustanon during lactation. Therefore, Sustanon should not be used during lactation.

Carcinogenicity and genotoxicity

Sex hormones are known to promote the growth of certain hormone dependent tissues and tumours. Subcutaneous implantation of testosterone produced cervical and uterine tumours in female mice, which metastasised in some cases. Metastasising prostatic adenocarcinomas occurred in male rats after chemical induction and subcutaneous implantation of testosterone. Testosterone promotes hepatocarcinogenesis in mice and rats.

Hepatocellular carcinoma has been reported in patients receiving long-term therapy with androgens. Chronic androgen deficiency is a protective factor for prostatic disease.

Hypogonadal men receiving androgen replacement therapy require surveillance for prostate disease similar to that recommended for eugonadal men of comparable age. Geriatric patients treated with androgens may be at an increased risk for development of prostatic hyperplasia and prostatic cancer.

The genotoxic potential of testosterone has not been fully investigated, although limited data suggest that it is not genotoxic.

Interactions with other medications and other forms of interaction

- Androgens may improve glucose tolerance and decrease the need for insulin or other anti-diabetic medicines in diabetic subjects.
- Androgens may potentiate the effects of cyclosporins and increase risk of nephrotoxicity. Sustanon may interfere with a number of clinical laboratory tests e.g. those for glucose tolerance and thyroid function, suppression of clotting factors II, V, VII and X.
- A decrease in protein-bound iodine (PBI) may occur, but this has no clinical significance.
- Enzyme inducing agents may decrease and enzyme-inhibiting drugs may increase testosterone levels. Therefore, adjustment of the dose of Sustanon may be required.
- Anticoagulants: C-17 substituted derivatives of testosterone have been reported to decrease the anticoagulant requirements. Patients receiving oral anticoagulants require close monitoring especially when androgens are started or stopped. However, this interaction has not been reported for Sustanon to date.

ADVERSE EFFECTS

Due to the nature of Sustanon side effects cannot be quickly reversed by discontinuing medication. Injectables in general, may cause a local reaction at the injection site (common).

The following adverse reactions have been associated with androgen therapy in general.

System Organ Class	MedDRA term		
	Common	Uncommon	Rare
Neoplasms benign, malignant and unspecified (incl. cysts and polyps)			Prostatic cancer ¹
Blood and lymphatic system disorders			Polycythaemia
Metabolism and nutrition disorders	Fluid retention		
Psychiatric disorders		Depression, nervousness, mood disturbances, libido increased, libido decreased	
Nervous System disorders			Dizziness, headache
Vascular disorders		Hypertension	
Gastrointestinal disorders		Nausea	Abdominal pain
Skin and subcutaneous tissue disorders		Pruritus, acne	Flushing of the skin
Musculoskeletal and connective tissue disorders		Myalgia	
Renal and Urinary disorders			Micturition disorders
Reproductive system and breast disorders		Gynaecomastia, oligozoospermia, priapism, prostatic disorder ²	
General disorders and administration site disorders			Fever, malaise
Investigations		PSA increased, lipids abnormal ³	Hepatic function abnormal

¹ Progression of a sub-clinical prostatic cancer.

² Prostatic growth (to eugonadal state)

³ Decrease in serum LDL-C, HDL-C and triglycerides.

DOSAGE AND ADMINISTRATION

- In general, dosage should be adjusted according to the response of the individual patient.
- Usually, one injection of 1mL per three weeks is adequate for Sustanon '250'.
- Sustanon should be administered by deep intramuscular injection.
- Safety and efficacy have not been adequately determined in children. Sustanon contains benzyl alcohol and should not be given to children under 3 years of age.

OVERDOSAGE

The acute toxicity of testosterone is low. There are no specific recommendations for the management of overdosage with Sustanon. If symptoms of chronic overdose occur (e.g. polycythemia, priapism) treatment should be discontinued and after disappearance of the symptoms, be resumed at a lower dosage.

PRESENTATION AND STORAGE CONDITIONS

Sustanon '250'

Each mL of the oily solution contains:

testosterone propionate 30mg

testosterone isocaproate 60mg

testosterone decanoate 100mg

testosterone phenylpropionate 60mg

Sustanon '250' AUST R 190717

1 x 1mL vial

3 x 1mL vial*

* *Not available commercially.*

Store between 8°C - 30°C. Do not refrigerate. Protect from light. Store in the original packaging and keep container in the outer carton.

The vial is for single use in one patient only. The solution should be injected immediately after withdrawing the contents from the vial using a sterile syringe and needle.

POISON SCHEDULE OF THE MEDICINE

Schedule 4 - Prescription Only Medicine.

NAME AND ADDRESS OF THE SPONSOR

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DATE OF APPROVAL

TGA approval date: 18 June 2008

Date of most recent amendment: 19 December 2011