

MAGNUS PHARMACEUTICALS

# Ligandrol (LGD-4033)

Ligandrol LGD-4033 10mg

**Read all of this leaflet carefully before you start taking this medicine because it contains important information for you.**

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor, pharmacist or nurse.
- This medicine has been prescribed for you only. Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours.
- If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet.

## About

Ligandrol is a second generation Selective Androgen Receptor Modulator (SARM). Though commonly nonsteroidal in structure, drugs of this class are closely related to anabolic/androgenic steroids in action. It binds to the same androgen receptor, and exerts similar anabolic effects. However, SARMs tend to do so with a great deal more tissue selectivity. As such, we can notice much greater separation of anabolic and androgenic effect. Ligandrol is reflective of this tendency. It is a strong agonist of the AR in skeletal muscle and bone, and only a weak partial agonist in the prostate. Like many SARMs, it may hold promise as a therapeutic agent, offering similar anabolic benefits to traditional AAS, but with fewer side effects.

Ligandrol is under development as a medicine, and has been subject to Phase I clinical trials. In the first such investigation, the drug was given to healthy young men at graded doses (0.1, 0.3, and 1 mg) daily for 3 weeks. The highest dose (1 mg) was shown to produce a significant increase in lean body mass of 1.21 kg, or 2.67 lbs. This is a gain of nearly 1 pound of LBM per week, remarkable considering the time frame. Further, this study did not introduce a training stimulus, which could have impacted this finding. There was no significant change in fat mass over this same period, however. Subjects also noticed a statistical trend of improvement in leg press strength and stair-climbing power.

Early data on this drug suggests Ligandrol has a relatively favorable safety profile. For one, there was no change in liver enzyme values. In doses that build muscle, hepatotoxicity does not appear to be a problem, as it can be with some other SARMs. There were also no clinically significant changes in hematocrit or EKG values. The effect of Ligandrol also appears highly selective for anabolism, with minimal androgenic activity at the sebaceous glands and prostate. That stated, the drug is prone to certain adverse effects normally associated with anabolic steroids. Most notably, it can produce negative changes to serum lipids, HDL cholesterol in particular. Ligandrol is also highly suppressive of endogenous testosterone, much more so than most other drugs of this class.

Ligandrol is commonly used in the fitness community as a muscle-building alternative to traditional anabolic steroids. Here, it has a reputation for being one of the most effective yet selective SARMs available. It builds muscle efficiently, and rarely causes complaints of excess androgenicity. When potency is a concern, it is usually given preference over ostarine (Ostarine) and Andarine. However, users should be aware that it could be more prone to certain side effects.

## Warnings

Ligandrol is an unapproved new drug. A thorough understanding of its safety and propensity for side effects in humans is lacking at this time.

## Side Effects

Ligandrol produced dose-dependent side effects in several key areas during Phase I trials. The most common reported side effects were headache and dry mouth.

The drug also negatively influenced HDL (good) cholesterol. These levels declined by nearly 40% with 1 mg/day dosing over 3 weeks. This was accompanied by a significant reduction in serum triglycerides (nearly 15%), and no change in LDL cholesterol levels. The impact of this negative shift in HDL/LDL ratio on general cardiovascular disease risk remains unclear, although is expected to increase risk similar to traditional oral anabolic steroids.

Ligandrol is highly suppressive of Total and Free Testosterone. At one time point during administration of 1 mg daily, Total Testosterone had been reduced by more than 50% (over 300 ng/dL) compared to placebo. Free testosterone noticed a similarly striking decline of nearly 40%. Hormone levels did return to normal within 56 days of drug discontinuance. Still, as with AAS therapy, HPTA suppression may necessitate a post-cycle therapy program to reduce the recovery window.

Visual disturbances were not reported during clinical studies. Further, it rarely appears in anecdotal reports. Though poorly understood, when visual side effects do appear during SARM therapy, it typically resolves on its own shortly after the drug is discontinued. Ligand Pharmaceuticals has also completed acute safety studies on Ligandrol. No serious adverse events were reported in doses up to 22 mg per day. Safety research on this agent is still early, and ongoing.

## Administration

Ligandrol is given orally. This substance has not been approved for use in humans. Prescribing guidelines are unavailable. During early clinical studies, 1 mg per day appeared to be an efficacious dose with tolerable side effects.

When used for physique- or performance-enhancing purposes, ligandrol is commonly used at a dosage of 2-10 mg, which is given once per day. Women usually take lower doses than men, often opting for the low end of the range. The drug often produces moderate to substantial increases in lean body mass (LBM). Gains are often described as being qualitatively and quantitatively similar to that of a mild oral anabolic, such as oxandrolone or stanozolol.

It is typically advised to taper-up the dosage of Ligandrol, so that the user becomes accustomed to the effects of the drug. This usually involves beginning with a 1-2 mg daily dose. This is increased by 1-2 mg every 5-7 days, until a comfortable level is established.

Cycles of this drug usually last 4 to 8 weeks. After this point, a PCT (Post-Cycle Therapy) program may be initiated. An equal amount of time off (or greater) is also typically advised.

Ligandrol is sometimes used alongside anabolic steroids, as an adjunct to increase the effectiveness of therapy. There may be some synergy in this practice. In addition to its additive anabolic effect, Ligandrol has been shown to significantly reduce serum SHBG (Sex Hormone Binding Globulin) levels. This could increase the free portion and potency of other steroid(s) given at the same time.