# **First Look:**

The Best SARMs in 2021 (Safe and Fast Steroid Alternatives)

- Ostarine MK-2866
- <u>Testolone RAD-140</u>
- <u>Andarine S-4</u>
- Lingadrol LGD-4033
- <u>YK-11</u>

SARMs stands for Selective Androgen Receptor Modulators. These compounds share similar properties with anabolic steroids but, as per the name, are more selective in how they work. As a receptor modulator, they have set effects on specific tissues or areas.

Comparatively, steroids are notorious for affecting more than muscle growth and performance: the dangers are no secret.

SARMs are a relatively novel muscle-building alternative, but that's not to say they don't have a solid base of advocates already.

We delve into the science behind SARMs and review five popular varieties to reveal what each can do for you. We investigate how they work with fact-based research based on legitimate studies — no unfounded claims here.

# The Best SARMs in 2021

# 1. Ostarine MK-2866-Best SARM Overall

Ostarine MK-2866 is also known as Ostarine, Enobosarm, or GTx-024. This SARM, developed by GTx, Inc. mimics the action of testosterone. Since this male hormone can help you shed unwanted fat, improve lean muscle mass, and boost energy, it's an all-around winner [1][2].

### How it Works

Ostarine reproduces testosterone's effects: it was originally designed to treat conditions caused, or worsened, by testosterone deficiencies. As with all SARMs, it binds to androgen receptors throughout your body [3].

Although there's no certified research on this compound for bodybuilding, it has proven success in the muscle-building department. Originally used to treat muscle wasting from various chronic conditions, Ostarine can significantly enhance physical function and lean muscle mass in women and men [4][5].

MK-2866 can get results in doses as low as one milligram. Per one study on cancer patients suffering from muscle wasting, stair-climbing power improved substantially,

with greater improvements seen in those taking a higher dosage [6]. Animal trials show that Ostarine may also increase bone density and prevent bone loss. Since powerlifting and other intensive bodybuilding workouts can heighten your risk for fractures, it's worth considering for that alone [7][8].

#### **Ostarine MK-2866 Side Effects**

Ostarine MK-2866 is non-steroidal; it isn't actually testosterone, although it works similarly. Side effects are minimal compared to traditional androgenic agents [9]. You may experience mild stomach pain, diarrhea, constipation, or nausea. Pregnant and breastfeeding women should avoid Ostarine. These are delicate times, keep things natural.

#### **Bottom Line**

Testosterone is the driving force behind many beneficial body processes, from muscle building to increased physical function. Since Ostarine selectively mimics testosterone's abilities, it's easily one of the best SARMs for performance enhancement and muscle gain.

## Check Best Price for Ostarine MK-2866

# 2.Testolone RAD-140 – Best for Bulking Up

Testolone RAD-140 was originally developed to target conditions like breast cancer and muscle wasting. It is one of the most potent SARMs, making it an optimal candidate if you want to bulk up and build muscle fast [10].

### How it Works

RAD-140 exhibits an exceptional affinity for androgen-receptor cells in the body. It's also extremely selective compared to other SARMs; it doesn't impact other steroid-hormone receptors. Initial studies on the compound reveal Testolone increases lean body mass without impacting fat mass [11].

SARMs are already discerning by definition, but research confirms that RAD-140 binds particularly well to the androgen receptors in bone and muscle. It blocks androgen receptors in the prostate and breasts, decreasing the risk of prostate and breast cancer [12].

RAD-140 is a safer treatment alternative to combat muscle wasting than testosterone replacement therapy and anabolic steroids. Both can aggravate or provoke cancers due to the overstimulation of androgen receptors [13].

Testolone could also boost brainpower. Early trials found that it can reduce brain cell death caused by aging. Anabolic steroid use is associated with increased brain abnormalities, making this SARM even more promising [14][15]. Trials show it may even suppress breast cancer. Its enhanced selectivity also means that, for women, the risk of other unpleasant androgenic effects such as hair growth is low [16].

#### **Testolone RAD-140 Side Effects**

Anecdotal reports from RAD-140 users warn of nausea for first-time users. Other potential adverse effects include insomnia or lethargy — experiences vary depending on the dosage and cycle length.

#### **Bottom Line**

Testolone's swift muscle-building abilities are among the best if you're in a bulking cycle. As one of the most discriminating SARMs, it's also excellent for targeting muscle and bone without impacting anything else.

Check Best Price for Testolone RAD-140

### 3. Lingadrol LGD-4033 – Best for Women

Lingadrol, or LGD-4033, is a SARM used to combat bone and muscle loss, resulting from osteoporosis. It is one of the best SARMs for women because they are more prone to bone disease. Lingadrol is also among the few SARMs to undergo human trials with promising results [17].

#### How it Works

LGD-4033 boasts high selectivity when it bonds to androgen-receptive cells in the body, opting for those in muscles and bones. It also works swiftly: a 21-day study on healthy men found all participants enjoyed increased lean body mass [18]. Within this short period, participants also showed increased leg press strength and stair-climbing power.

Dosages ranged from just 0.1-1mg, demonstrating its ultra-high potency. Since women naturally build muscle at a slower pace than men, due to lower testosterone levels, LGD-4033 could be a good strategy to kickstart muscle gain [19]. Animal trials confirm suggested that Lingadrol may be adept at positively affecting bones and muscles without interfering with sensitive areas, like the prostate.

Outcomes included increased bone mass and strength, as well as improved sexual function [20].

#### **Lingadrol Side Effects**

Some users might experience stomach trouble, such as nausea or abdominal pain. Remember that variables such as your diet and how long you choose to cycle the compound influence its effects.

#### **Bottom Line**

Since the loss of bone density is more common, and tends to start at an earlier age, in women than men, we designate it as the best SARM for women. Nonetheless, the potent capacity of LGD-4033 to build lean muscle in the body makes it a viable choice for most bodybuilders [21].

## Check Best Price for Lingadrol LGD-4033

# 4. YK-11 – Best for Fast Gains

Aside from the usual SARMs characteristics, YK-11 stands out in that it inhibits myostatin. This compound inhibits cell growth and differentiation in muscles. That ability makes it an optimal SARM if you're after rapid progress.

#### How it Works

This SARM has limited research available, but what exists is promising. It suppresses myostatin, a natural compound in the body that negatively impacts muscle growth. Myostatin is one of the culprits behind muscle wasting in elderly or chronically ill individuals [22][23].

Suppressing myostatin can not only prevent muscle atrophy and loss, but it can also improve growth too. Research supports that strength gains are another positive consequence of limiting myostatin [24].

At the same time, YK-11 boosts follistatin expression, a helpful protein that contributes to muscle growth, fertility, and metabolism. Follistatin also serves to work against myostatin, which translates to greater muscle gains [25][26].

### YK-11 Side Effects

Secondhand reports from YK-11 users mention joint and tendon pain as a possible side effect. Since there's minimal scientific research about it, pregnant and breastfeeding women should avoid it.

#### **Bottom Line**

The myostatin-inhibiting action of this SARM is worth a try for the novice that wants quick results. Experienced bodybuilders can also use it to speed up the bulking process.

Check Best Price for YK-11

# 5. Andarine S-4 – Best for Cutting Fat

Andarine is a selective androgen receptor that ranks among the best SARMs for cutting. Like Ostarine, it's a product of GTx, Inc. It was developed to combat osteoporosis and muscle wasting — so you can imagine what it can do for a healthy person.

Apart from improving muscle mass, S-4 can aid with fat loss too. Bigger muscles, combined with enhanced fat loss, should help you achieve that coveted "cut" look. If you want to transition through the difficult cutting cycle without over-supplementing, Andarine could be an option [27].

Err on the side of caution and avoid supplementing with Andarine while pregnant and breastfeeding. Increased hair loss is a possible effect, although bear in mind that reports of Andarine side effects differ dramatically.

Check Best Price for Andarine S-4

# SARMs Buying Guide and Frequently Asked Questions

Let's discuss what SARMs can do for you, and what you should know when it concerns buying and using SARMS.

Recreational SARMs within dietary supplements exist in somewhat grey areas: they're sold in dietary supplements, and they're also a DEA-controlled substance — in the same category as steroids [28].

Athletes seeking to compete professionally should know The World Anti-Doping Agency (WADA) prohibits SARMs [29].

### Are SARMs Safe?

Using SARMs recreationally for bodybuilding is not an FDA-approved usage, meaning safety is not guaranteed. Research is limited as to how they affect the body long-term, and there are no scientific investigations into using them in cycles recreationally [30].

Dietary supplements that aren't FDA-approved are not regulated, including products purporting to contain SARMs. The ingredient list could be misleading, stating inaccurate or nonexistent quantities of the SARM in question [31].

## **Can SARMs Make You Stronger?**

Yes, certain SARMs can improve your strength, particularly when combined with intensive workouts. Plenty of studies confirm that SARMs increase participants' physical function (which includes strength).

# Where Can You Find SARMs for Sale?

Various dietary supplements targeted at bodybuilders and fitness enthusiasts claim to include SARMs. You should take these labels with a grain of salt, especially if the brand isn't reputable.

Look for highly-reviewed vendors that are well-known. It isn't wise to purchase SARMs from private individuals or dodgy places, no matter what strength or quantity they advertise.

## How and When Should You Use SARMs?

You should only use SARMs if you're otherwise healthy with no pre-existing conditions. Women should avoid trying to build muscle mass with these compounds while breastfeeding or pregnant.

SARMs are usually taken in cycles of two to three months at doses of five to 15 milligrams per day. They're also available as pills or capsules. Personal factors like your goals (e.g., bulking vs cutting) will also play a role in how you take them. The ideal cycle and dosage per day will depend upon the compound you're taking: 8 weeks is pretty standard. Some bodybuilders shorten the cycle to 4 weeks or extend it to a 12-week cycle.

As a rule, you should begin your first cycle with a low dosage to see how you react and stick to a shorter cycle of 4 to 8 weeks. For example, Testolone is highly potent even in small doses, so you don't want to go overboard with how much you take. You should never push your cycle to beyond 12 weeks. Avoid upping your dosage per day in large increments: if you decide to increase it, opt for no more than 5mg. If you experience serious side effects, cut your cycle short, and check with your doctor. SARMs may not be as dangerous as regular steroids, but that doesn't make them 100-percent safe.

### Should You Use SARMs for Bodybuilding?

There are plenty of success stories from bodybuilders using SARMs in cycles to increase muscle mass and performance. It's up to you to weigh out the risks and benefits of taking these compounds.

SARMs do have far fewer nasty side effects than traditional bodybuilding supplements. Still, you should exercise caution and monitor yourself carefully when you cycle.

#### What Are the Benefits of Taking SARMs?

SARMs offer many of the same perks as traditional steroids and testosterone supplements. They can improve muscle mass, strength, performance, and even brain function. Some can aid in cutting fat and increasing bone density.

Although these compounds are not devoid of side effects, many of the dreaded symptoms bodybuilders fear from anabolic steroids, and testosterone supplements won't follow.

Anabolic steroids can also cause opposite-sex characteristics to manifest, e.g. body hair growth in women or breasts in men. Both genders also experience increased cancer risk, aggression, acne, hair loss, and more.

#### What Are the Side Effects of SARMs?

Side effects differ depending on the type of SARM, your cycle, dosage, and overall health. Most studies exploring SARMs for medical applications illustrate minimal negative effects.

Read our comprehensive guide on <u>What are SARMs</u>, their benefits and side effects.

### **Do SARMs Lower Testosterone Levels?**

Yes, a selective androgen receptor can lower testosterone levels at higher doses, depending on type of SARM.

### Should Women Take SARMs?

SARMs are an appealing alternative to anabolic steroids. Women benefit big, as the adverse consequences of traditional steroids or testosterone supplementation in women are often severe.

Some SARMs are even considered promising in the treatment of muscle waste, breast cancer, and other disorders in women.

# Is MK 677 a SARM?

MK 677, or Ibutamoren, is commonly thought to belong to the family of SARMs, but it doesn't. It regulates growth hormone and stimulates ghrelin, the hormone responsible for hunger.

These properties make MK 677 an exciting candidate for bodybuilders looking to bulk up, but its not a SARM.

SARMs can be excellent aids to accomplish your bodybuilding goals. Still, it's vital to avoid abusing them and use common sense when selecting the best SARMs for you. As with any synthetic substance, the potential for adverse effects is there. The risk is substantially lower than with other alternatives like testosterone, but it still exists. Remember that no official regulatory body monitors SARMs. If you choose to supplement with these products, look for manufacturers with a good reputation and reviews.

# References

1. "Enobosarm." National Center for Biotechnology Information. PubChem Compound Database, U.

S. National Library of Medicine, pubchem.ncbi.nlm.nih.gov/compound/Enobosarm.

2. Pasiakos, Stefan M, et al. "Effects of Testosterone Supplementation on Body Composition and Lo wer-Body Muscle Function during Severe Exercise- and Diet-Induced Energy Deficit: A Proof-of-Co ncept, Single Centre, Randomised, Double-Blind, Controlled Trial." EBioMedicine, Elsevier, Aug. 2 019, www.ncbi.nlm.nih.gov/pmc/articles/PMC6711889/.

3. Davey, Rachel A, and Mathis Grossmann. "Androgen Receptor Structure, Function and Biology: F rom Bench to Bedside." The Clinical Biochemist. Reviews, The Australian Association of Clinical B iochemists, Feb. 2016, www.ncbi.nlm.nih.gov/pmc/articles/PMC4810760/.

4. Dalton, James T, et al. "The Selective Androgen Receptor Modulator GTx-024 (Enobosarm) Impr oves Lean Body Mass and Physical Function in Healthy Elderly Men and Postmenopausal Women: Results of a Double-Blind, Placebo-Controlled Phase II Trial." Journal of Cachexia, Sarcopenia and Muscle, Springer-Verlag, Sept. 2011, www.ncbi.nlm.nih.gov/pmc/articles/PMC3177038/.

5. Papanicolaou DA;Ather SN;Zhu H;Zhou Y;Lutkiewicz J;Scott BB;Chandler J; "A Phase IIA Rand omized, Placebo-Controlled Clinical Trial to Study the Efficacy and Safety of the Selective Androge n Receptor Modulator (SARM), MK-0773 in Female Participants with Sarcopenia." The Journal of N utrition, Health & Aging, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/23732550/.

6. "PubMed Central Image Viewer." National Center for Biotechnology Information, U.S. National L ibrary of Medicine, www.ncbi.nlm.nih.gov/core/lw/2.0/html/tileshop\_pmc/tileshop\_pmc\_inline.html ?title=Click on image to zoom.

7. Hoffmann DB;Komrakova M;Pflug S;von Oertzen M;Saul D;Weiser L;Walde TA;Wassmann M;S chilling AF;Lehmann W;Sehmisch S; "Evaluation of Ostarine as a Selective Androgen Receptor Mo dulator in a Rat Model of Postmenopausal Osteoporosis." Journal of Bone and Mineral Metabolism, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/29785666/.

8. Bengtsson, Victor, et al. "Narrative Review of Injuries in Powerlifting with Special Reference to T heir Association to the Squat, Bench Press and Deadlift." BMJ Open Sport & Exercise Medicine, B MJ Publishing Group, 17 July 2018, www.ncbi.nlm.nih.gov/pmc/articles/PMC6059276/.

9. Dobs AS;Boccia RV;Croot CC;Gabrail NY;Dalton JT;Hancock ML;Johnston MA;Steiner MS; "Ef fects of Enobosarm on Muscle Wasting and Physical Function in Patients with Cancer: a Double-Bli nd, Randomised Controlled Phase 2 Trial." The Lancet. Oncology, U.S. National Library of Medicin e, pubmed.ncbi.nlm.nih.gov/23499390/.

10. "Testolone." National Center for Biotechnology Information. PubChem Compound Database, U.S. National Library of Medicine, pubchem.ncbi.nlm.nih.gov/compound/Testolone.

11. Miller, Chris P, et al. "Design, Synthesis, and Preclinical Characterization of the Selective Andro gen Receptor Modulator (SARM) RAD140." ACS Medicinal Chemistry Letters, American Chemical Society, 2 Dec. 2010, www.ncbi.nlm.nih.gov/pmc/articles/PMC4018048/.

12. Eisenberg, Michael Louis. "Testosterone Replacement Therapy and Prostate Cancer Incidence." The World Journal of Men's Health, Korean Society for Sexual Medicine and Andrology, Dec. 2015, www.ncbi.nlm.nih.gov/pmc/articles/PMC4709428/.

13. Salerno, Monica, et al. "Anabolic Androgenic Steroids and Carcinogenicity Focusing on Leydig Cell: a Literature Review." Oncotarget, Impact Journals LLC, 10 Apr. 2018, www.ncbi.nlm.nih.gov/ pmc/articles/PMC5922407/.

14. Jayaraman A;Christensen A;Moser VA;Vest RS;Miller CP;Hattersley G;Pike CJ; "Selective And rogen Receptor Modulator RAD140 Is Neuroprotective in Cultured Neurons and Kainate-Lesioned Male Rats." Endocrinology, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/24428527/

15. Kaufman, Marc J, et al. "Brain and Cognition Abnormalities in Long-Term Anabolic-Androgenic Steroid Users." Drug and Alcohol Dependence, U.S. National Library of Medicine, 1 July 2015, www.ncbi.nlm.nih.gov/pmc/articles/PMC4458166/.

16. Yu Z;He S;Wang D;Patel HK;Miller CP;Brown JL;Hattersley G;Saeh JC; "Selective Androgen R eceptor Modulator RAD140 Inhibits the Growth of Androgen/Estrogen Receptor-Positive Breast Can cer Models with a Distinct Mechanism of Action." Clinical Cancer Research : an Official Journal of t he American Association for Cancer Research, U.S. National Library of Medicine, pubmed.ncbi.nlm. nih.gov/28974548/.

17. "4-((R)-2-((R)-2,2,2-Trifluoro-1-Hydroxyethyl)Pyrrolidin-1-Yl)-2-(Trifluoromethyl)Benzonitrile. "National Center for Biotechnology Information. PubChem Compound Database, U.S. National Libr ary of Medicine, pubchem.ncbi.nlm.nih.gov/compound/lgd-4033.

18. Basaria, Shehzad, et al. "The Safety, Pharmacokinetics, and Effects of LGD-4033, a Novel Nonst eroidal Oral, Selective Androgen Receptor Modulator, in Healthy Young Men." The Journals of Ger ontology. Series A, Biological Sciences and Medical Sciences, Oxford University Press, Jan. 2013, w ww.ncbi.nlm.nih.gov/pmc/articles/PMC4111291/.

19. Haizlip, K M, et al. "Sex-Based Differences in Skeletal Muscle Kinetics and Fiber-Type Compos ition." Physiology (Bethesda, Md.), American Physiological Society, Jan. 2015, www.ncbi.nlm.nih.g ov/pmc/articles/PMC4285578/.

20. Miner JN;Chang W;Chapman MS;Finn PD;Hong MH;López FJ;Marschke KB;Rosen J;Schrader W;Turner R;van Oeveren A;Viveros H;Zhi L;Negro-Vilar A; "An Orally Active Selective Androgen Receptor Modulator Is Efficacious on Bone, Muscle, and Sex Function with Reduced Impact on Pros tate." Endocrinology, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/17023534/.

21. Alswat, Khaled A. "Gender Disparities in Osteoporosis." Journal of Clinical Medicine Research, Elmer Press, May 2017, www.ncbi.nlm.nih.gov/pmc/articles/PMC5380170/.

22. Piper T;Dib J;Putz M;Fusshöller G;Pop V;Lagojda A;Kuehne D;Geyer H;Schänzer W;Thevis M; "Studies on the in Vivo Metabolism of the SARM YK11: Identification and Characterization of Meta bolites Potentially Useful for Doping Controls." Drug Testing and Analysis, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/30379415/. 23. Carnac, Gilles, et al. "Myostatin in the Pathophysiology of Skeletal Muscle." Current Genomics, Bentham Science Publishers Ltd., Nov. 2007, www.ncbi.nlm.nih.gov/pmc/articles/PMC2647158/.

24. Tsuchida, K. "Myostatin Inhibition by a Follistatin-Derived Peptide Ameliorates the Pathophysio logy of Muscular Dystrophy Model Mice." Acta Myologica : Myopathies and Cardiomyopathies : Of ficial Journal of the Mediterranean Society of Myology, Pacini Editore SpA, July 2008, www.ncbi.nl m.nih.gov/pmc/articles/PMC2859604/.

25. Kanno Y;Ota R;Someya K;Kusakabe T;Kato K;Inouye Y; "Selective Androgen Receptor Modula tor, YK11, Regulates Myogenic Differentiation of C2C12 Myoblasts by Follistatin Expression." Biol ogical & Pharmaceutical Bulletin, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/239 95658/.

26. Kanno Y;Ota R;Someya K;Kusakabe T;Kato K;Inouye Y; "Selective Androgen Receptor Modula tor, YK11, Regulates Myogenic Differentiation of C2C12 Myoblasts by Follistatin Expression." Biol ogical & Pharmaceutical Bulletin, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/239 95658/.

27. Kearbey JD;Gao W;Narayanan R;Fisher SJ;Wu D;Miller DD;Dalton JT; "Selective Androgen Re ceptor Modulator (SARM) Treatment Prevents Bone Loss and Reduces Body Fat in Ovariectomized Rats." Pharmaceutical Research, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/17063 395/.

28. Hatch, Orrin G. "S.2742 – 115th Congress (2017-2018): SARMs Control Act of 2018." Congress .gov, 24 Apr. 2018, www.congress.gov/bill/115th-congress/senate-bill/2742.

29. "What Is Prohibited." World Anti-Doping Agency, www.wada-ama.org/en/content/what-is-prohi bited/search/Sarms.

30. Commissioner, Office of the. "FDA In Brief: FDA Warns against Using SARMs in Body-Buildin g Products." U.S. Food and Drug Administration, FDA, www.fda.gov/news-events/fda-brief/fda-brie f-fda-warns-against-using-sarms-body-building-products.

31. Starr, Ranjani R. "Too Little, Too Late: Ineffective Regulation of Dietary Supplements in the Uni ted States." American Journal of Public Health, American Public Health Association, Mar. 2015, www.ncbi.nlm.nih.gov/pmc/articles/PMC4330859/.

Share this article