

Anabolic Warfare Project Density: A natural, compliant Laxogenin Supplement

written by Mike Roberto | June 21, 2022

We're halfway through the year, and about halfway through Anabolic Warfare's incredible *Project Muscle* series. Today, we're taking a break from talking about the series' *turkesterone*-based supplements (like Project Hulk) and getting into an ingredient that's been in the news recently: **laxogenin**.

Anabolic Warfare *Project Density*



Anabolic Warfare Project Density is touted to:

- Manage healthy cortisol levels
- Increase protein synthesis
- Promote muscle definition & strength

It's a *single-ingredient* supplement that has **500 milligrams of *Smilax sieboldii* extract** (supported with BioPerine), which is generally extracted for its *laxogenin* extract and similar brassinosteroids.

This is an important change, as certain "laxogenin" supplements have come under regulatory fire. However, *natural plant extracts* like this one better fall in line with dietary supplement laws in America, so Project Density is a more compliant way of getting laxogenin to customers.

The science and reasoning is discussed below, but first, let's check prices and

availability on this natural laxogenin source:

Anabolic Warfare Project Density – Deals and Price Drop Alerts

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Project Density Ingredients:

In a single *1-capsule* serving of Project Density from Anabolic Warfare, you get the following:

- **Smilax Extract (Smilax sieboldii L.) (rhizome & root) – 500 mg**

Project Density		
Supplement Facts		
Serving Size: 1 Capsule		
Servings per Container: 60		
	Amount Per Serving	%DV
Smilax Extract (Smilax sieboldii L.) (rhizome & root)	500mg	**
BioPerine® Black Pepper Fruit Extract (95% Piperine)(Piper nigrum)	5mg	**
**Daily Value Not Established		
Other Ingredients: Gelatin (FD&C Blue #1, Titanium Dioxide), Micro Crystalline Cellulose, Magnesium Stearate		
BioPerine® is a registered trademark of Sabinsa Corporation.		

Smilax extract is usually standardized for *laxogenin*, a *brassinosteroid* that occurs naturally in a few types of plants from the *Smilax* genus, including the *Smilax sieboldii*. [1]

About brassinosteroids

Brassinosteroids are *plant-derived steroid hormones* similar in structure and

function to *phytoecdysteroids*, a class of molecules that regular readers of this blog are already familiar with. Much like steroid hormones in *mammals*, plant steroids coordinate the growth and development of the plants that synthesize them.[2]

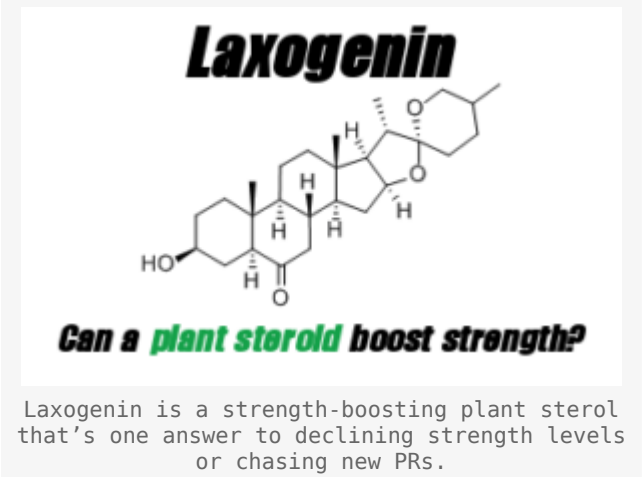
The name “brassinosteroid” comes from the fact that these molecules were first isolated from the *Brassica* genus, which includes familiar vegetables like broccoli, cauliflower, brussel sprouts, and kale[3] – the so-called *cruciferous vegetables*.

Fortunately, although brassinosteroids have significant anabolic activity,[4] they are currently *not* banned by law or from athletic competition, and do not cause the side effects that anabolic steroids do.

Constituents of *Smilax sieboldii* – multiple forms of laxogenin

A study titled “*Steroidal saponins from the rhizomes of Smilax sieboldii*” isolated and identified six separate components, a few of which were laxogenin or laxogenin-bound compounds.[5] One, for instance, is *laxogenin 3-O-alpha-L-arabinopyranosyl-(1→6)-beta-D-glucopyranoside*, which has a role of a metabolite.[6]

A more recent study titled “*Steroidal Saponins from the Genus Smilax and Their Biological Activities*” identified even more steroidal constituents in various *Smilax* plants, including *furostane*, *cholestane*, *spirostane*, *isospirostane*, and *pregnane*. [7] Laxogenin falls under the classification of isospirostane-type saponins.



Laxogenin

Can a plant steroid boost strength?

Laxogenin is a strength-boosting plant sterol that's one answer to declining strength levels or chasing new PRs.

Using broader spectrum plant extracts, as opposed to single-ingredient sources, serves two purposes:

1. Full plant extracts can provide additional anabolic molecules that are natural co-factors for the main ingredient (laxogenin, in this case)

2. Full plant extracts are more legally compliant

The second point is important, because the FDA has recently come down on *5-alpha-hydroxy-laxogenin* specifically, which they argue does not qualify as a dietary ingredient.[8] *Smilax*, however, is a natural botanical plant extract that does pass the DSHEA 1994 guidelines. Many readers can consider this to be a more compliant way to use laxogenin.

Laxogenin research

Now, assuming the majority of Project Density's *Smilax* extract is laxogenin, we can take a look at the compound specifically.

ANABOLIC WARFARE

PROJECT DENSITY

KEY BENEFITS:

- Manage Healthy Cortisol Levels*
- Increase Protein Synthesis*
- Promotes Muscle Definition & Strength*

KEY INGREDIENTS:

Smilax Extract comes from the Smilax Seiboldii plant. It helps manage healthy cortisol levels and promotes muscle gains, power, strength, protein synthesis, and improved recovery.*

BioPerine® increases the bio-availability of nutrients and enhances absorption of whole food and supplements.*

Supplement Facts

	Amount Per Serving	%DV
Serving Size: 1 Capsule Servings per Container: 60		
Smilax Extract (Smilax sieboldii L.) (rhizome & root)	500mg	**
BioPerine® Black Pepper Fruit Extract (95% Piperine)(Piper nigrum)	5mg	**

*Daily Value Not Established

Other Ingredients: Gelatin (FD&C Blue #1), Titanium Dioxide, Micro Crystalline Cellulose, Magnesium Stearate. BioPerine® is a registered trademark of Sabinsa Corporation.

*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

SUGGESTED STACKS:

- Lean Gains: Milk, Density, Cuts
- Advanced Cuts: Phenylethyl, Density, Cuts
- Natural Mass: Density, Milk, Test

There are some good studies in *animals* showing that laxogenin has significant anabolic activity with minimal side effects.[4,9] In one, ***laxogenin not only increased muscle protein synthesis, but also prevented muscle tissue from being catabolized.***[4,9]

It also has been shown to speed up recovery, reduce cortisol levels, and decrease inflammation.[10]

What about *5α-hydroxy-laxogenin*?

There's one intriguing human study that demonstrated that *5α-hydroxy-laxogenin* has *androgenic effects on human prostate cells in vitro*.[11] However, if you see this ingredient on a dietary supplement label, you can almost guarantee that it's *synthetic* – it has never been isolated from *Smilax* or any other plant.[11] This is why the FDA has targeted it, and it's actively been removed from the market.

ANABOLIC WARFARE
PROJECT GAINS

PRICEFLOW

KEY BENEFITS:

- Increase Muscle Protein Synthesis*
- Stimulate mTOR Activation*
- Promote Muscle Recovery*

KEY INGREDIENTS:

Phosphatidic Acid activates the mTOR pathway, which then can boost protein synthesis and support muscle growth when paired with resistance training.

Ajeja Turkestanica is a plant that supports strength and protein synthesis while building lean muscle mass.*

BioPerine® increases the bio-availability of nutrients and enhances absorption of whole food and supplements.*

PROJECT GAINS: GET STARTED WITH 'TURK'
PRICEFLOW ARTICLE

Thinking about trying out the *turkesterone* waters? Anabolic Warfare's Project Gains is a great way to get started!

Needless to say, research like this implies that naturally-sourced laxogenin would still have *anabolic* effects in humans as well, especially when coupled with the animal research on non-synthetic laxogenin above.

Anecdotally, we've seen that laxogenin supplements tend to support moderate strength gains. Aside from an obvious use case for strength athletes, it's often used in athletes who are off-cycle attempting to keep any gains they can.

The long story short is that *Smilax extracts* are *natural, compliant* sources of laxogenin, and products like Project Density are a better way to keep laxogenin available and on the shelves worldwide.

- **BioPerine Black Pepper Fruit Extract (95% Piperine) (Piper nigrum)**

Here to ensure you get the most bang for your *Smilax* buck is industry mainstay, **BioPerine**, a black pepper extract that's designed to increase the *bioavailability*[12,13] of whatever you take it with.

BioPerine works by inhibiting key stomach enzymes that would otherwise degrade nutrients before they can be absorbed into the bloodstream. The reason this matters is because *most* supplements won't have their intended effect until the ingredients they contain are circulating in your blood.

Piperine's independent benefits



The next wave of warfare is here from Austin, TX based *Anabolic Warfare* – **Project Muscle!** Inside we introduce the *e*leven incredibly unique supplements.

Piperine doesn't *just* enhance the effectiveness of other ingredients, though. It *also* has some additional benefits. For example, piperine increases the expression of *glucose transporter 4* (GLUT4), a protein that occurs in *cellular membranes*. It's responsible for moving *glucose* out of the bloodstream and into muscle tissue where it can be burned as energy for the purpose of improving performance and synthesizing muscle protein.[12]

In other words, piperine increases *insulin sensitivity*. It also helps de-fat the *liver*,[14] an organ where fat doesn't belong and can cause a potentially devastating syndrome called *non-alcoholic fatty liver disease* if it builds up too much.

BioPerine is also a potent *antioxidant*. [15]

Dosage and Instructions

Take two capsules per day. You can take both capsules pre-workout, or split into one capsule each in AM/PM dosing.



Do the blue

The most compliant way to get laxogenin in

The FDA has spoken, and they've taken action. They do *not* like synthetic laxogenin ingredients that don't exist in nature – specifically targeting 5-*alpha-hydroxy-laxogenin*. But laxogenin is still a popular natural anabolic substance that doesn't need to get dragged through the dirt.

With **Project Density**, Anabolic Warfare shows us a more *compliant* way to get laxogenin in: with *Smilax sieboldii*. You won't see the constituent on this label, but if your favorite "laxogenin" supplement has been pulled from the market, there's a good chance it was synthetic.

Project Density is the *natural* and *more compliant* alternative, so you can expect it to stick around longer than whatever FDA-upsetting synthetic ingredient comes out next. We'll take the natural cofactors of mother nature any day.

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