

Cycle Matrix Ovulatory & Oocyte (formerly Fertility Matrix)

A powdered blend of evidence-based nutrients for optimal hormonal regulation, oocyte development and fertility support in women. Peach mango flavour for improved compliance.



Vegan

GMO Free

Gluten Free

Soy Free

Dairy Free

- Designed to support female fertility, including ovulation, oocyte quality, embryonic development and successful gestation
- Inositol and NAC offer insulin support and hormonal balance in cases of polycystic ovarian syndrome (PCOS), a known condition to predispose to infertility
- Coenzyme Q10 and PQQ provide mitochondrial support to improve egg quality, embryo implantation and embryonic growth
- L-arginine increases blood flow to the pelvic organs and supports endometrial thickness, endometrial receptivity and follicular growth
- Folate is delivered in the active 5-MTHF form to improve oocyte development, embryo quality and live birth rates, alongside choline to support fetal nervous system development
- *Vitex agnus-castus* contains diterpene compounds and flavonoids to exhibit dopaminergic action, reduce prolactin levels and increase endogenous progesterone
- Each 276 gram bottle contains a 30 day supply in a peach mango flavoured powder for improved compliance and ease of use

- Vegan and free from GMO's, gluten, soy and dairy.

Infertility is a rising health concern for Canadians, with as many as 1 in 6 couples currently experiencing difficulties with conception. Of course, infertility may arise as a result of male or female health issues, or some combination of concerns with both partners. While there may be multiple underlying causes or complicating factors, in women the cause is often related to egg production, egg quality, menstrual irregularities or hormonal imbalances. **Cycle Matrix - Ovulatory and Oocyte Support** by Cyto-Matrix combines a selection of natural health ingredients to target and improve these parameters in females experiencing infertility.

One clinical picture that often leads to infertility in women is polycystic ovarian syndrome (PCOS). Physiologically, women with PCOS present with insulin resistance and subsequent elevations in androgens and suboptimal progesterone during the luteal phase of the menstrual cycle. This often results in irregular menses, lack of egg maturation, anovulation and infertility. Fortunately, dietary modifications, lifestyle changes and a number of nutritional supplements have been demonstrated to

improve this dysfunctional pattern. One great example of a well-studied nutrient to benefit PCOS is inositol.

Inositol is a naturally occurring isomer of glucose and an important nutrient in the B-vitamin family. It is a key component of the cellular membrane and increases the sensitivity of cell receptors to serotonin, acetylcholine, norepinephrine, thyroid hormones and insulin. At doses of 1-4 grams/day, inositol has been shown to improve insulin and glucose control, regulate ovulation, improve egg quality, lower androgens and improve fertility in women with PCOS. When combined with folic acid, inositol has been demonstrated to improve in vitro fertilization (IVF) rates. Moreover, one study found that this same combination of nutrients was more effective at inducing ovulation and achieving pregnancy in infertile women with PCOS when directly compared to metformin.

On the topic of **folate**, even though it is classically known for its importance in the first trimester of pregnancy to prevent neural tube defects like spina bifida and anencephaly, research has shown that it also plays a crucial role in fertility and pregnancy preparation. For example, studies have found that higher folate levels are associated with improved oocyte development, embryo quality and implantation, clinical pregnancies and live birth rates. In addition, research has found that lower levels of folate may be accompanied with a higher risk of early miscarriage. The high prevalence of genetic modifications in the 5-MTHFR gene strongly suggests that 5-methyltetrahydrofolate (5-MTHF), as opposed to synthetic folic acid, is the necessary form for supplementation in all women to ensure proper absorption and utilization.

N-acetylcysteine (NAC) is another promising treatment for PCOS and infertility. NAC is the rate-limiting substrate needed for the production of

endogenous glutathione, one of our body's most powerful antioxidants and detoxifying compounds. NAC has been used extensively in clinical trials to support optimal health, particularly in cases of liver protection and respiratory conditions. In the context of women's health, NAC has been shown to improve insulin sensitivity, restore ovulation and improve egg quality in PCOS, while also significantly increasing the rate of live birth rates in women with unexplained recurrent pregnancy loss. Finally, NAC has been shown to improve pregnancy rates when used adjunctively with clomiphene citrate in intrauterine insemination (IUI) cycles for women with unexplained infertility. Mitochondrial dysfunction, as a result of any number of environmental toxins, disease states or ageing, is another identified mechanism behind female infertility. This may explain why Coenzyme Q10 (CoQ10), a nutrient known to support mitochondrial function and increase ATP energy production, has shown such promise in various female infertility cases. Although CoQ10 has classically been used as a cardiovascular nutrient, recent research has shown that CoQ10 improves conception rates by supporting egg quality, embryo implantation and embryonic growth. **Pyrroloquinoline quinone (PQQ)** is a unique antioxidant that has been shown to have synergistic beneficial effects on mitochondrial function when used alongside CoQ10.

In some cases of infertility, the health of the endometrial lining may be a contributing concern and L-arginine may be helpful. **L-arginine** has been supplemented principally for its ability to upregulate nitric oxide and improve blood flow, explaining its benefits on intermittent claudication and exercise performance, but it also has demonstrated merit for women's health. Increased nitric oxide supports blood flow to the pelvic organs, supporting endometrial receptivity, endometrial thickness and follicular growth. One particular study found that L-

arginine improved endometrial thickness and pregnancy rates in women with thin endometrial linings.

Finally, select cases of infertility may be linked back to low progesterone levels, independently of PCOS. *Vitex agnus-castus*, commonly known as Chastetree, has long been used for raising progesterone levels and addressing women's health concerns. Diterpene compounds and flavonoids found in vitex have been demonstrated to exhibit dopaminergic action, thereby reducing prolactin levels and increasing endogenous progesterone. Collectively, these actions would explain why clinical research has found that vitex can improve menstrual cycle regularity and PMS symptoms. In theory, better hormonal balance may have positive effects on female infertility.

Cycle Matrix - Ovulatory and Oocyte Support

combines all of these evidenced based nutrients to support women's fertility including ovulation, oocyte quality, embryonic development and successful gestation. Plus, additional choline to positively influence fetal brain and spinal cord formation. **Cycle Matrix - Ovulatory and Oocyte Support** is offered in a convenient peach mango flavoured powder for improved compliance and ease of use. Each 276 gram bottle contains a 30 day supply. **Cycle Matrix - Ovulatory and Oocyte Support** is vegan and free from GMO's, gluten, soy and dairy.

Each scoop contains

Myo-inositol (Inositol)	4 g
L-Arginine (L-Arginine monohydrochloride)	1 g
NAC (N-Acetyl-L-Cysteine)	600 mg
Choline ((VitaCholine™) choline L(+) bitartrate))*	550 mg
CoQ10 (Coenzyme Q10)	300 mg
Chastetree extract (fruit, <i>Vitex agnus-castus</i>) 10:1 extract equivalent to 500mg dry fruit	50 mg
PQQ (pyrroloquinoline quinone)	20 mg
Folate (L-5-methyltetrahydrofolate)	1 mg

*VitaCholine™ is a trademark of Balchem Corporation or its subsidiaries.

Non-Medicinal Ingredients

Beetroot powder, beta-carotene, citric acid, malic acid, silicon dioxide, stevia, maltodextrin, natural peach flavour, natural mango flavour.

Recommended Use Claim

Used in Herbal Medicine to help stabilise menstrual cycle irregularities and relieve premenstrual symptoms. Helps in the management of PCOS's hormonal and metabolic conditions by promoting healthy glucose metabolism. Inositol helps promote ovulatory function and improves oocyte quality in those with PCOS. Helps to support normal early fetal development and reduce the risk of neural tube defects when taken daily at least three months prior to becoming pregnant and during early pregnancy. Source of antioxidants.

Directions of Use

Adult women - Take 1 scoop per day in water or juice or as directed by a healthcare professional. Take with food. 400 mcg of folate per day is adequate for most women (to reduce the risk of neural tube defects). Consult a healthcare professional to determine if you would benefit from additional folate before taking this product.

Cautions and Warnings

Do not use if seal is broken. Consult a healthcare professional prior to use if you have kidney stones, if you are taking medication for blood pressure, cardiovascular diseases, erectile dysfunction, blood thinners, hormone-containing medications such as progesterone preparations, oral contraceptives or if you are on hormone replacement therapy. 400 mcg of folate per day is adequate for most women (to reduce the risk of neural tube defects). Consult a healthcare professional to determine if you would benefit from additional folate before taking this product. Consult a healthcare professional prior to use if you suffer from cardiovascular disease and are attempting an increase in physical activity or if your cardiovascular condition worsens. Consult a healthcare professional if migraine frequency increases and associated nausea and vomiting persist or worsen. Consult a healthcare professional if symptoms persist or worsen.

Duration of Use

At a minimum, women who are planning to become pregnant should start taking this supplement 3 months before the pregnancy. Consult a healthcare professional for use beyond 6 weeks if you suffer from a cardiovascular disease.

Contraindications

Do not use this product if you have had a heart attack/myocardial infarction. Do not use this product if you are taking antibiotics or nitroglycerin. Do not use if you are pregnant, breastfeeding or attempting to conceive unless you have consulted with a healthcare professional.

Known Adverse Reactions

Some people may experience gastrointestinal discomfort (such as diarrhea).