designs for health®

Prenatal Pro™

Multivitamin for fertility, pregnancy, and postpartum health*

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Prenatal Pro™ is a four-capsule-per-day multivitamin and multimineral formula designed to support the physiological demands of preconception, pregnancy, and lactation.* Maternal nutrient requirements increase during these stages to accommodate tissue expansion, placental development, fetal growth, and postpartum recovery. This comprehensive formulation provides a full spectrum of essential vitamins and minerals to support maternal nutrient status, cellular metabolism, and fetal development during pregnancy.* Nutrient levels are selected to align with established Dietary Reference Intakes (DRIs) for pregnancy while also addressing commonly observed nutrient gaps in Western dietary patterns. Each nutrient is provided in a bioavailable, physiologically relevant form to support absorption, utilization, and tolerability. Prenatal Pro™ is designed for women seeking to promote fertility, pregnant women, and women postpartum, especially those who are breastfeeding.*

Benefits*

- Supports comprehensive nutritional status during preconception, pregnancy, and postpartum[1,18,36,38,55,72]
- Supports fertility and reproductive health[1,18]
- Supports antioxidant status to help protect cells against oxidative stress during preconception, pregnancy, and postpartum[25,30,51]
- May help reduce the risk of preterm birth[38,40]
- May help reduce the risk of gestational diabetes and/or preeclampsia[38,39]
- Supports healthy maternal thyroid function and thyroid hormone metabolism during pregnancy[72-78]
- Supports fetal brain and neurological development during pregnancy[6,18,21,22,72]
- Supports healthy homocysteine metabolism throughout pregnancy and lactation[1-4]

Formulation Highlights

- Chelated minerals for enhanced absorption and tolerability to help meet increased maternal micronutrient demands*
- Tocopherol-free vitamin E isomers supplied as a blend of gamma- and delta-tocotrienols to support antioxidant status and vascular balance during pregnancy*
- Bioactive folate as Quatrefolic® 5-methyltetrahydrofolate (5-MTHF), offering greater bioavailability than folic acid and supporting methylation and fetal development*
- Vitamin B12 as methylcobalamin, a naturally occurring bioactive form that supports DNA synthesis, erythropoiesis, and neurological development*
- Pregnancy RDA of iron provided as Ferrochel® chelated iron, a highly bioavailable, non-constipating form designed for gastrointestinal tolerability
- Iodine and selenium in a balanced 1:1 ratio to support thyroid hormone synthesis and fetal neurodevelopment*
- Vitamin K1 provided at levels aligned with established intake recommendations to support bone and cardiovascular function*
- Chelated zinc provided at levels aligned with pregnancy requirements to support reproductive health and gestational physiology*
- Calcium and magnesium to support fetal skeletal development and maternal neuromuscular function*
- Choline to support neurodevelopment, cell membrane integrity, and methyl metabolism during pregnancy and lactation*
- Vitamin B6 as pyridoxal-5-phosphate (P-5-P), the biologically active form, to support amino acid metabolism and healthy homocysteine metabolism*
- Vitamin D3 at 25 mcg (1,000 IU) per serving to support maternal bone health, immune function, and normal pregnancy physiology*
- Gluten-free, dairy-free, soy-free; non-GMO

Supplement Facts

Serving Size 4 capsules
Servings Per Container 30

Amount Per Serving		% Daily Value
Vitamin A (as Mixed Carotenoids and Palmitate)	1500 mcg RAE	115%
Vitamin C (as Ascorbic Acid)	400 mg	333%
Vitamin D (as Cholecalciferol)	25 mcg (1000 IU)	167%
Vitamin K (as Vitamin K1 Phytonadione)	120 mcg	133%
Thiamin (Vitamin B-1)(as Thiamin HCl)	1.4 mg	100%
Riboflavin (Vitamin B-2) (as Riboflavin-5-Phosphate)	1.6 mg	100%
Niacin (Vitamin B-3)(as Niacinamide)	18 mg NE	100%
Vitamin B-6 (as Pyridoxal-5-Phosphate)	2 mg	100%
Folate (as Quatrefolic® [6S]-5-methyltetrahydrofolate, glucosamine salt)	1360 mcg DFE	227%
Vitamin B-12 (as Methylcobalamin)	2.8 mcg	100%
Biotin (as d-Biotin)	35 mcg	100%
Pantothenic Acid (as d-Calcium Pantothenate)	7 mg	100%
Calcium (as DimaCal® Di-Calcium Malate)	140 mg	11%
Iron (as Ferrochel® Ferrous Bisglycinate Chelate)	27 mg	100%

Amount Per Serving		% Daily Value
Iodine (as Potassium Iodide)	200 mcg	69%
Magnesium (as Di-Magnesium Malate)	80 mg	20%
Zinc (as Zinc Bisglycinate Chelate)	13 mg	100%
Selenium (as Selenium Glycinate Complex)	200 mcg	286%
Copper (as TRAACS® Copper Glycinate Chelate)	1.3 mg	100%
Manganese (as TRAACS® Manganese Bisglycinate Chelate)	2.6 mg	100%
Chromium (as TRAACS® Chromium Nicotinate Glycinate Chelate)	45 mcg	100%
Molybdenum (as TRAACS® Molybdenum Glycinate Chelate)	50 mcg	100%
Choline (as Choline Dihydrogen Citrate)	50 mg	9%
Vitamin E Isomers (DeltaGold®) [as delta and gamma tocotrienols from annatto (*Bixa orellana*)(seed)]	15 mg	*

*Daily Value not established.

Other Ingredients: Cellulose (capsule), microcrystalline cellulose, sunflower lecithin, vegetable stearate, silicon dioxide.

Methylation and Homocysteine Support in Pregnancy With B Vitamins*
Vitamins B2, B6, and B12 are provided at levels that meet the pregnancy-specific Recommended Dietary Allowance (RDA), aligning with established intake recommendations for this life stage and supporting healthy homocysteine (Hcy) metabolism during preconception, pregnancy, and lactation.[1,2]

Along with folate, these B vitamins function as essential cofactors in one-carbon metabolism and methylation pathways that support DNA synthesis, cellular replication, and processes involved in placental development during pregnancy.[1] Adequate intake helps meet the increased methylation demands associated with maternal physiologic adaptation.

Inadequate status of vitamins B2, B6, or B12 may impair homocysteine metabolism and contribute to elevated circulating homocysteine concentrations.[1,2] Elevated maternal homocysteine during gestation has been associated with early pregnancy loss and placenta-mediated complications, including preeclampsia and fetal growth restriction.[3,4] In a large prospective birth cohort study (n = 7,587), increasing maternal homocysteine concentrations were associated with higher odds of placenta-mediated complications.[4] These findings underscore the importance of maintaining balanced homocysteine metabolism throughout pregnancy.

Vitamin B12 supports DNA synthesis, methylation reactions, and erythropoiesis, contributing to normal maternal physiology and fetal development.[1] A 2024 Cochrane review reported that vitamin B12 supplementation during pregnancy increased maternal vitamin B12 concentrations, reduced the risk of deficiency, and increased neonatal vitamin B12 concentrations at birth.[5] Adequate maternal vitamin B12 levels therefore support vitamin B12 status in both mother and infant at delivery.*

Vitamin B2 (riboflavin), provided as riboflavin-5-phosphate, serves as a precursor to flavin adenine dinucleotide (FAD), a required cofactor for methylenetetrahydrofolate reductase (MTHFR) and efficient folate cycling.[1] Adequate riboflavin status supports homocysteine remethylation and cellular energy metabolism during pregnancy.*

Vitamin B6 is provided as pyridoxal-5-phosphate (P-5-P), its biologically active form, and serves as a cofactor for enzymes involved in homocysteine transsulfuration, amino acid metabolism, neurotransmitter synthesis, and hemoglobin formation.[1] Adequate vitamin B6 intake supports healthy homocysteine balance and normal maternal metabolic adaptation.*

When taken altogether, vitamins B2, B6, B12, and folate form a coordinated nutrient network that supports methylation, placental development, and fetal growth throughout gestation.* Additional B vitamins, including thiamine, niacin, and pantothenic acid, further contribute to cellular energy production and metabolic adaptation during the increased physiologic demands of pregnancy.*

Folate and One-Carbon Metabolism in Maternal–Fetal Development

Folate supports DNA synthesis and cellular replication during early embryogenesis and contributes to placental and fetal development throughout pregnancy.[1] Adequate maternal folate status before conception and during early gestation supports proper neural tube development and neurological development.[1,6] These processes require sufficient folate availability during periods of rapid growth and cellular proliferation.[7]

Adequate folate status has been evaluated in relation to neurodevelopmental and placenta-mediated pregnancy outcomes.[8,9] Folate functions in coordination with vitamins B6 and B12 in one-carbon metabolism to support methylation pathways and processes involved in fetal growth throughout pregnancy.[10]

Folate form may influence its metabolism and utilization during pregnancy. Folic acid is a synthetic, oxidized form of folate commonly used in prenatal supplements that requires enzymatic reduction before entering folate-dependent methylation pathways.[1,11] Variability in enzymatic activity may influence folate metabolism and utilization, including among individuals with genetic variations affecting folate metabolism.[12] Unmetabolized folic acid has been detected in maternal and umbilical cord blood following supplementation with synthetic folic acid.[13,14]

To address these considerations, this formula supplies folate as Quatrefolic®, a bioactive 5-methyltetrahydrofolate (5-MTHF) glucosamine salt. 5-MTHF is the primary circulating folate form and directly participates in one-carbon metabolism.[1,11] Supplementation with 5-MTHF has been shown to increase circulating and red blood cell folate concentrations in human and animal studies.[12,15-17] These findings reflect improvements in biomarkers of folate status relevant to maternal sufficiency.

This formula provides 1,360 mcg dietary folate equivalents (DFEs) per serving. The pregnancy RDA for folate is 600 mcg DFE; total DFE delivery accounts for differences in bioavailability among folate forms and aligns with established intake recommendations during gestation and lactation.[1,6] The DFE measurement standardizes folate activity across forms to reflect relative bioavailability.

Choline in Neurodevelopment and Methylation During Pregnancy

Choline is an essential nutrient involved in fetal brain development, phospholipid synthesis, lipid transport, and methylation metabolism.[18] During pregnancy, maternal requirements increase to support placental growth, neurodevelopment, and rapid cellular proliferation, yet dietary intake often falls below recommended levels among women of reproductive age.[18]

Systematic review and meta-analysis data suggest that higher maternal choline intake during pregnancy is associated with measures of offspring cognitive and attentional outcomes.[19] Together, these findings underscore the importance of maintaining adequate choline intake during gestation. Choline is included to help support intake in alignment with the Adequate Intake (AI) established for pregnancy.

Reflecting this biological importance, active transport mechanisms concentrate choline within the placenta and facilitate preferential transfer to the fetus, resulting in higher fetal than maternal circulating concentrations.[18] This selective transfer reflects the high physiological demand for choline during pregnancy.

Choline serves as a precursor to phosphatidylcholine, a structural phospholipid required for placental membrane integrity, lipoprotein assembly, and tissue development.[18] Phosphatidylcholine also supports very-low-density lipoprotein (VLDL) synthesis and hepatic lipid export, contributing to normal maternal lipid metabolism.[18,20] In addition, choline contributes to the synthesis of the neurotransmitter acetylcholine, which supports neuronal proliferation, differentiation, and synapse formation.[21,22] Adequate maternal intake supports normal brain development and related neurodevelopmental processes.*

Through oxidation to betaine, choline provides methyl groups for homocysteine remethylation via the betaine–homocysteine methyltransferase (BHMT) pathway.[23] This folate-independent pathway functions in parallel with folate-dependent remethylation and may be particularly relevant during periods of increased methylation demand.[19,23] Adequate choline availability supports methylation capacity and epigenetic regulation of gene expression during development.[24]

Oxidative Stress and Metabolic Adaptation During Pregnancy
Pregnancy is characterized by increased metabolic demand, rapid cellular proliferation, and elevated placental mitochondrial activity.[25] These physiologic adaptations are associated with increased oxidative stress and coordinated shifts in maternal lipid metabolism that support placental function and fetal development.[25,26] Nutritional strategies that support antioxidant status are therefore relevant during periods of increased oxidative demand.

Vitamin E plays a role in supporting antioxidant status within lipid membranes, helping maintain cellular integrity during increased metabolic activity. Because placental and maternal tissues are rich in polyunsaturated fatty acids, lipid-soluble nutrients that support antioxidant status may be relevant during gestation.[27-29]

Vitamin E in this formula is provided as tocopherol-free, annatto-derived delta- and gamma-tocotrienols (DeltaGold®). Tocotrienols are structurally distinguished from tocopherols by an unsaturated isoprenoid side chain, which may enhance mobility within lipid membranes and support antioxidant status in lipid-rich environments.[30] Experimental and mechanistic studies suggest that tocotrienols may influence oxidative stress-related signaling pathways involved in cellular adaptation during increased metabolic activity.[30] In animal models, tocotrienols have also been shown to support normal physiological responses to stress under conditions of physiologic demand.[31]

Unlike conventional vitamin E formulas that predominantly supply alpha-tocopherol, annatto-derived tocotrienols are naturally free of tocopherols. Tissue distribution studies suggest that co-administration of alpha-tocopherol may reduce tissue accumulation of tocotrienols.[32] Because alpha-tocopherol is widely available from dietary sources such as nuts, seeds, and vegetable oils, this tocopherol-free form provides tocotrienols without added alpha-tocopherol.

Annatto-derived tocotrienols have been evaluated in developmental safety studies in animal models and were not associated with teratogenic effects within the nutritional ranges studied.[33-36] Preclinical investigations have also explored tocotrienol exposure during gestation and early postnatal development.[37] In animal models, prenatal and early postnatal supplementation with a tocotrienol-rich fraction was associated with improved measures of cognitive performance in offspring.[37]

Micronutrients Supporting Placental Function and Fetal Development*
Vitamin D at 25 mcg (1,000 IU) provides a foundational level of intake during pregnancy. Adequate vitamin D status supports calcium homeostasis, skeletal development, immune regulation, and placental function.* Observational studies and meta-analyses have evaluated vitamin D status and supplementation in relation to preterm birth, gestational diabetes, and hypertensive disorders of pregnancy, with findings suggesting that adequate vitamin D status may be associated with a reduced risk of these outcomes.[38,39] These findings support the importance of maintaining sufficient vitamin D status throughout gestation. Because these outcomes are influenced by multiple nutritional factors during pregnancy, broader evidence from systematic reviews of multiple micronutrient supplementation further supports the role of comprehensive maternal nutrient status in improving pregnancy outcomes, including measures related to preterm birth.[40]

Vitamin D receptors (VDRs) are expressed in placental tissue, decidua, and immune cells, reflecting vitamin D's role beyond skeletal physiology.[41] It contributes to the regulation of innate and adaptive immune responses and may influence trophoblast invasion and placental vascular development.[42] Maternal circulating 25-hydroxyvitamin D [25(OH)D] concentrations vary based on geographic latitude, sun exposure, skin pigmentation, body composition, and dietary intake.[43] An intake of 1,000 IU per day may complement endogenous synthesis or additional supplementation guided by serum 25(OH)D concentrations.

Vitamin K1 at 120 mcg supports normal coagulation physiology during pregnancy and lactation. Vitamin K plays a central role in the activation of clotting factors and the maintenance of hemostatic balance.[44] A Cochrane review and meta-analysis reported that vitamin K supplementation during pregnancy increases maternal plasma vitamin K1 concentrations.[45,46]

In addition to its role in coagulation, vitamin K contributes to bone mineralization and vascular health through vitamin K-dependent proteins that help regulate calcium distribution, as well as through limited conversion to vitamin K2 in certain tissues.[44,47] Together with vitamin D, vitamin K contributes to coordinated calcium metabolism during pregnancy, in part through activation of vitamin K-dependent proteins involved in calcium utilization and vascular function.[48,49]

Vitamin C is provided as 400 mg of ascorbic acid. Vitamin C supports antioxidant status, immune function, collagen synthesis, and absorption of dietary non-heme iron during pregnancy.[50] Adequate collagen formation contributes to placental structure, fetal membrane integrity, and abdominal skin expansion during pregnancy.[50] A systematic review and meta-analysis reported associations between vitamin C status and premature rupture of membranes.[51] These findings support maintaining adequate vitamin C status during gestation.

Vitamin A in this formula provides 1,500 mcg retinol activity equivalents (RAE) per serving as a mixed carotenoid blend and preformed vitamin A for individuals who may be unable to synthesize sufficient vitamin A from carotenoid precursors. Vitamin A is essential for fetal development during pregnancy and supports epithelial integrity, immune function, and cellular differentiation.[52,53] The established tolerable upper intake level (UL) for preformed vitamin A during pregnancy is 3,000 mcg RAE per day; intakes below established upper intake levels have not been shown to increase the risk of major congenital malformations.[54] Appropriate dosing remains an important consideration in prenatal nutritional planning.

Chelated Trace Minerals for Enhanced Absorption in Pregnancy
Iron as Ferrochel® ferrous bisglycinate chelate supports maternal iron status and fetal development and is provided in a well-tolerated, non-constipating form.* Iron requirements increase substantially during pregnancy due to expansion of maternal red blood cell mass, increased plasma volume, placental development, and fetal iron accretion.[55] Total gestational iron needs are significantly higher than in the nonpregnant state, particularly during the second and third trimesters when fetal growth accelerates.[55]

The formula delivers 27 mg of iron, corresponding to the pregnancy-specific RDA established to meet the increased iron demands of gestation.[56,57] Average dietary iron intake among women of reproductive age in the United States frequently falls below recommended levels, and iron deficiency remains one of the most common nutrient deficiencies during pregnancy.[57]

In controlled human meal studies, iron bisglycinate chelate demonstrated approximately twofold greater absorption than ferrous sulfate when consumed with food.[58] This chelated form may reduce interactions with dietary inhibitors, such as phytates and polyphenols (e.g., tannins), which can impair the bioavailability of inorganic iron salts.[58]

A randomized controlled trial in pregnant women with iron-deficiency anemia (n = 150) reported fewer gastrointestinal side effects and improved tolerability with once-daily iron amino acid chelate providing 15 mg elemental iron compared with once-daily ferrous fumarate providing 115 mg elemental iron, with the chelate group also demonstrating greater improvements in hematologic markers. These findings at a lower dose are consistent with evidence suggesting greater bioavailability of amino acid chelated iron compared with iron salts.[59]

A systematic review and meta-analysis further reported that oral ferrous bisglycinate supplementation increased hemoglobin and ferritin concentrations.[60] These findings support the use of iron bisglycinate chelate in prenatal formulations aligned with pregnancy-specific intake recommendations.

Zinc as bisglycinate chelate supports DNA synthesis, cellular division, immune function, and antioxidant enzyme activity during pregnancy.[61,62] The amount aligns with established intake recommendations for pregnancy to support rapid fetal growth, placental development, and maternal tissue expansion during this period of increased cellular demand. Zinc functions as a structural and catalytic component of numerous enzymes and transcription factors that regulate gene expression and cellular proliferation.[61] Adequate zinc status supports normal immune adaptation and cellular repair processes throughout gestation.*

Chromium supports normal carbohydrate metabolism and insulin signaling pathways.[63] Chromium contributes to insulin-mediated cellular glucose uptake and metabolic balance.[64,65] Pregnancy is characterized by progressive changes in insulin sensitivity as maternal metabolism adapts to support fetal nutrient delivery.[66] Maintaining adequate chromium intake supports normal metabolic function during pregnancy.*

Magnesium and Calcium in Skeletal and Vascular Support*
Magnesium and calcium support normal maternal physiology and fetal development during pregnancy. Magnesium functions as a cofactor in numerous enzymatic reactions and contributes to muscle relaxation, electrolyte balance, and regulation of vascular tone.[67] Adequate magnesium status supports normal neuromuscular function and healthy blood pressure regulation throughout pregnancy.[67]

Calcium is required for fetal skeletal mineralization and maintenance of maternal bone health, particularly during the third trimester when fetal calcium accretion accelerates.[68] Maternal calcium homeostasis is regulated through coordinated increases in intestinal absorption, renal conservation, and skeletal remodeling to meet fetal demands.[69] Adequate calcium intake supports fetal skeletal development and contributes to maternal bone health during pregnancy.[70]

Iodine and Selenium in Thyroid Regulation During Pregnancy
Iodine and selenium support coordinated thyroid hormone synthesis, activation, and protection during pregnancy.* Thyroid hormones regulate neuronal migration, axonal growth, myelination, synaptogenesis, and overall brain maturation throughout gestation.[71] During the first trimester, the fetus depends entirely on maternal thyroxine (T4), as the fetal thyroid gland does not become functionally mature until later in pregnancy.[71] Adequate maternal thyroid hormone production in early gestation is therefore important for normal neurodevelopment.

Iodine is an essential structural component of thyroxine (T4) and triiodothyronine (T3) and is required for thyroid hormone biosynthesis.[72] Thyroid hormones play a critical role in fetal brain development. Suboptimal iodine status has been reported among pregnant women in North America, underscoring the importance of adequate intake during periods of increased thyroid hormone demand.[73,74] Systematic reviews have evaluated iodine supplementation in relation to offspring neurocognitive development, with findings suggesting improvements in psychomotor development in iodine-deficient populations, with additional evidence supporting broader aspects of neurodevelopment.[75]

Selenium is incorporated into selenoproteins, including iodothyronine deiodinases that convert T4 to the biologically active T3.[76] Selenium-dependent enzymes also support redox balance within maternal thyroid tissue during periods of heightened hormone synthesis.[77,78] Adequate selenium status supports normal maternal thyroid function.* Together, iodine and selenium support thyroid hormone production, activation, and redox balance.[72,76] Adequate intake of both trace minerals is important for maintaining thyroid homeostasis during pregnancy.*

Recommended Use: Take 4 capsules per day with meals or as directed by your health-care practitioner.

Warning: Accidental overdose of iron-containing products is a leading cause of fatal poisoning in children under 6 years of age. Keep this product out of reach of children. In case of accidental overdose, call a doctor or poison control center immediately. Consult your health-care practitioner before using this product if you are taking Coumadin®, warfarin, or other anticoagulant medications.

For a list of references cited in this document, please visit:

https://www.designsforhealth.com/api/library-assets/literature-reference---prenatal-pro-tech-sheet-references

Dosing recommendations are given for typical use based on an average 150-pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage.

***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.**