

# DHEA 5 mg Sublingual

## Micronized Dehydroepiandrosterone

### DESCRIPTION

DHEA sublingual tablets, provided by Douglas Laboratories, contain the highest purity micronized dehydroepiandrosterone (DHEA) produced under strict Good Manufacturing Practices (GMP).

### FUNCTIONS

DHEA is a natural steroid hormone that is synthesized from cholesterol through pregnenolone by the adrenal glands. DHEA acts as an antagonist for glucocorticosteroid hormones and is the parent precursor for other important steroid hormones, such as estradiol and other estrogens, and testosterone. While not a precursor to progesterone, DHEA can indirectly influence progesterone synthesis through a feedback mechanism whereby pregnenolone is converted to progesterone based on DHEA levels.

Apart from these functions, DHEA also has important biological functions itself. Recent experimental and human studies show that DHEA is involved in a large variety of physiological processes, including immune function, brain function, bone metabolism, blood lipid metabolism, energy metabolism, the regulation of normal blood sugar and insulin levels, and the maintenance of lean body mass. DHEA and its metabolite DHEA sulfate are present in human adult plasma in concentrations of 0.01-0.02 mM and 5 to 7 mM, respectively. DHEA sulfate levels are low in early childhood; begin to rise after age 7, peak at age 20-24, and then drop at a rate of approximately 20% per decade, until at age 85-90, levels are 10-15% of what they used to be at age 20-30. DHEA levels also decline under a variety of conditions of

physiological stress, such as acute and chronic infections, and trauma.

### INDICATIONS

DHEA tablets may be a useful nutritional adjunct for individuals who wish to support the body's normal DHEA functions.

### FORMULA (#83025)

**Each Bisect, Sublingual Tablet Contains:**

DHEA.....5 mg  
(Dehydro-epi-androsterone)

*DHEA is micronized to increase absorption. It is made with pure, pharmaceutical grade DHEA.*

### SUGGESTED USE

Adults take ½ to 1 tablet daily as directed by physician only. May be taken sublingually by allowing tablet to dissolve in mouth or with water or juice.

### SIDE EFFECTS

#### Warning:

Please consult your physician before using this product.

Not to be taken by individuals under the age of 18. Do not use this product if you have breast, uterine, ovarian or prostate problems. If you are at risk for or have prostate, breast, uterine or ovarian cancer you should not use this product. If you are pregnant, nursing or taking any prescription medication, especially other hormones or MAOIs (Monoamine Oxidase Inhibitors) consult with your physician before using this product. This product may cause changes in liver function, alterations in hormone profiles, increased facial hair, acne, and mood swings.

## STORAGE

Store in a cool, dry place, away from direct light.  
Keep out of reach of children. Do not refrigerate.

### References

- Araneo B, Daynes R. Dehydroepiandrosterone functions as more than an antigluco-corticoid in preserving immunocompetence after thermal injury. *Endocrinology* 1995;136:393-401.
- Araneo BA, Shelby J, Li GZ, Ku W, Daynes RA. Administration of dehydroepiandrosterone to burned mice preserves normal immunologic competence. *Arch Surg* 1993;128:318-25.
- Azuma T, Nagai Y, Saito T, Funauchi M, Matsubara T, Sakoda S. The effect of dehydroepiandrosterone sulfate administration to patients with multi-infarct dementia. *J Neurol Sci* 1999;162:69-73.
- Barrett-Connor E, Ferrara A. Dehydroepiandrosterone, dehydroepiandrosterone sulfate, obesity, waist-hip ratio, and noninsulin-dependent diabetes in postmenopausal women: the Rancho Bernardo Study. *J Clin Endocrinol Metab* 1996;81:59-64. *(continued on reverse)*
- Barrett-Connor E, Kritiz-Silverstein D, Edelman SL. A prospective study of dehydroepiandrosterone sulfate (DHEAS) and bone mineral density in older men and women. *Am J Epidemiol* 1993;137:201-6.
- Beer NA, Jakubowicz DJ, Matt DW, Beer RM, Nestler JE. Dehydroepiandrosterone reduces plasma plasminogen activator inhibitor type 1 and tissue plasminogen activator antigen in men. *Am J Med Sci* 1996;311:205-10.
- Berdanier CD, Parente JA, Jr., McIntosh MK. Is dehydroepiandrosterone an antiobesity agent? *Faseb J* 1993;7:414-9.
- De Pergola G, Triggiani V, Giorgino F, Cospite MR, Garruti G, Cignarelli M, Guastamacchia E, Giorgino R. The free testosterone to dehydroepiandrosterone sulphate molar ratio as a marker of visceral fat accumulation in premenopausal obese women. *Int J Obes Relat Metab Disord* 1994;18:659-64.
- De Pergola G, Zamboni M, Sciaraffia M, Turcato E, Pannacciulli N, Armellini F, Giorgino F, Perrini S, Bosello O, Giorgino R. Body fat accumulation is possibly responsible for lower dehydroepiandrosterone circulating levels in premenopausal obese women. *Int J Obes Relat Metab Disord* 1996;20:1105-10.
- Eich DM, Nestler JE, Johnson DE, Dworkin GH, Ko D, Wechsler AS, Hess ML. Inhibition of accelerated coronary atherosclerosis with dehydroepiandrosterone in the heterotopic rabbit model of cardiac transplantation. *Circulation* 1993;87:261-9.
- Evans TG, Judd ME, Dowell T, Poe S, Daynes RA, Araneo BA. The use of oral dehydroepiandrosterone sulfate as an adjuvant in tetanus and influenza vaccination of the elderly. *Vaccine* 1996;14:1531-7.
- Flynn MA, Weaver-Osterholtz D, Sharpe-Timms KL, Allen S, Krause G. Dehydroepiandrosterone replacement in aging humans. *J Clin Endocrinol Metab* 1999;84:1527-33.
- Garcia-Estrada J, Luquin S, Fernandez AM, Garcia-Segura LM. Dehydroepiandrosterone, pregnenolone and sex steroids down-regulate reactive astroglia in the male rat brain after a penetrating brain injury. *Int J Dev Neurosci* 1999;17:145-51.
- Glaser JL, Brind JL, Vogelman JH, Eisner MJ, Dillbeck MC, Wallace RK, Chopra D, Orentreich N. Elevated serum dehydroepiandrosterone sulfate levels in practitioners of the Transcendental Meditation (TM) and TM-Sidhi programs. *J Behav Med* 1992;15:327-41.
- Hall GM, Perry LA, Spector TD. Depressed levels of dehydroepiandrosterone sulphate in postmenopausal women with rheumatoid arthritis but no relation with axial bone density. *Ann Rheum Dis* 1993;52:211-4.
- Jesse RL, Loesser K, Eich DM, Qian YZ, Hess ML, Nestler JE. Dehydroepiandrosterone inhibits human platelet aggregation in vitro and in vivo. *Ann N Y Acad Sci* 1995;774:281-90.
- Katz S, Morales AJ. Dehydroepiandrosterone (DHEA) and DHEA-sulfate (DS) as therapeutic options in menopause. *Semin Reprod Endocrinol* 1998;16:161-70.
- Lee J, Sepulveda RT, Jiang S, Zhang Z, Inerra P, Zhang Y, Hosseini S, Watson RR. Immune dysfunction during alcohol consumption and murine AIDS: the protective role of dehydroepiandrosterone sulfate. *Alcohol Clin Exp Res* 1999;23:856-62.
- Legrain S, Berr C, Frenoy N, Gourlet V, Debuire B, Baulieu EE. Dehydroepiandrosterone sulfate in a long-term care aged population. *Gerontology* 1995;41:343-51.
- Morales AJ, Haubrich RH, Hwang JY, Asakura H, Yen SS. The effect of six months treatment with a 100 mg daily dose of dehydroepiandrosterone (DHEA) on circulating sex steroids, body composition and muscle strength in age-advanced men and women. *Clin Endocrinol (Oxf)* 1998;49:421-32.
- Morales AJ, Nolan JJ, Nelson JC, Yen SS. Effects of replacement dose of dehydroepiandrosterone in men and women of advancing age [published erratum appears in *J Clin Endocrinol Metab* 1995 Sep;80(9):2799]. *J Clin Endocrinol Metab* 1994;78:1360-7.
- Nestler JE, Clore JN, Blackard WG. Dehydroepiandrosterone: the "missing link" between hyperinsulinemia and atherosclerosis? *Faseb J* 1992;6:3073-5.
- van Vollenhoven RF, Park JL, Genovese MC, West JP, McGuire JL. A double-blind, placebo-controlled, clinical trial of dehydroepiandrosterone in severe systemic lupus erythematosus [see comments]. *Lupus* 1999;8:181-7.
- Wolkowitz OM, Reus VI, Keebler A, Nelson N, Friedland M, Brizendine L, Roberts E. Double-blind treatment of major depression with dehydroepiandrosterone. *Am J Psychiatry* 1999;156:646-9.
- Yu CK, Yang BC, Lei HY, Chen YC, Liu YH, Chen CC, Liu CW. Attenuation of house dust mite Dermatophagoides farinae-induced airway allergic responses in mice by dehydroepiandrosterone is correlated with down-regulation of TH2 response. *Clin Exp Allergy* 1999;29:414-22.

**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.**

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**You trust Douglas Laboratories.  
Your patients trust you.**

