# Klean Joint & Muscle

### DESCRIPTION

Klean Joint & Muscle is a plant-based formula consisting of tart cherry, tamarind seed, turmeric root, and astaxanthin at clinically studied doses to support both joint and muscle health.<sup>‡</sup>

### **INDICATIONS**

- Provides joint comfort, function, and flexibility<sup>‡</sup>
- Supports cartilage health, joint and muscle integrity<sup>‡</sup>
- Aids in muscle recovery and reduced soreness post-exercise<sup>‡</sup>

# FUNCTIONS AND MECHANISM OF ACTION

Montmorency cherries are a good choice for recovery following intense exercise in humans because of their high concentrations of anthocyanins. VitaCherry<sup>®</sup> whole tart cherry fruit contains 15 times higher concentration of anthocyanins compared to standard tart cherry powders. These natural compounds have been shown to work synergistically to promote antioxidant activity and healthy inflammatory responses in connection with exercise. Studies have shown tart cherries can benefit athletes by moderating post-exercise muscle strength loss and soreness, as well as aiding in muscle recovery in both resistance and endurance trained athletes.<sup>‡</sup>

TamaFlex<sup>®</sup> is a plant-based synergistic blend of tamarind seeds and turmeric root that provides joint health benefits. Published human data supports significant improvements in joint comfort, function, and flexibility. Study participants consuming 400 mg of TamaFlex daily showed knee flexion improvement and a 23-38% subjective improvement in overall joint flexibility and function starting at day 14. *In-vivo* studies reveal TamaFlex works by mediating 5-LOX and COX-2 mediators, along with modulating other cytokines which may result in joint comfort. It was also shown to reduce oxidative stress and mediate cartilage degradation via MMP-3 and MMP-13 inhibition.<sup>‡</sup>

Astaxanthin is a natural carotenoid extracted from the freshwater algae *Haematococcus pluvialis* and cultivated indoors for maximum purity. Astaxanthin accumulates in the body's powerhouse cells called mitochondria and may help protect them against free radical damage, while also promoting the body's own antioxidant enzymes. This may result in reduced oxidative stress in the muscle and faster recovery. Two studies performed in elite soccer athletes consuming 4 mg of AstaReal<sup>®</sup> astaxanthin daily showed a decrease in CRP levels and the enzymes creatine kinase and aspartate aminotransferase.<sup>‡</sup>

# FORMULA (#KA202682-60)

Other Ingredients: Hydroxypropyl methylcellulose (capsule), microcrystalline cellulose, ascorbyl palmitate

Gluten-free, Non-GMO

TamaFlex<sup>®</sup> is a trademark of NXT USA, Inc. Patents Pending VitaCherry<sup>®</sup> is a registered trademark of VDF Futureceuticals,Inc., used under license. AstaReal<sup>®</sup> is a registered trademark of Fuji Chemical Industries Co., Ltd.

### Suggested Usage:

As a dietary supplement, adults take 2 capsules daily with food or as directed by a trainer, coach, or health professional.

**Warning:** If you are pregnant, nursing, have any health condition taking any medication, consult your health professional before using this product.

#### Storage:

Store in a cool, dry place, away from direct light. Keep out of reach of children.

#### **References:**

J Int Soc Sports Nutr. 2016 May 26; 13:22. [Tart cherry] J Int Soc Sports Nutr. 2015 Nov 16; 12:41. [Tart cherry] Nutrients 2016, *8*(7), 441 [Tart cherry] Med Sci Sports Exerc. 2011 Aug;43(8):1544-51 [Tart cherry] Nutrients 2014, 6(2), 829-843 [Tart cherry] Int. J. Med. Sci. 2019, Vol. 16 [TamaFlex] Sundaram, M. S. et al. Sci. Rep. 5, 11117 [Tamarind seed] Evidence-Based Complementary and Alternative Medicine. Volume 2015, Article ID 783761 [Astaxanthin] J Sports Med Phys Fitness 2012; 52:382-92 [Astaxanthin]

#### For more information on Klean Joint & Muscle visit douglaslabs.com

<sup>‡</sup>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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