Xtra-Cell® Joint Support†
Frozen Glandular Extracts

DESCRIPTION
Xtra-Cell®Joint Support†, provided by Douglas Laboratories®, is an innovative frozen liquid extract consisting of selected proteins, peptides and other growth factors and signaling molecules obtained from porcine mesenchyme tissue, as well as a specialized marine liquid cartilage extract.

FUNCTIONS
Xtra-Cell® Joint Support† is manufactured and purified via a patented low temperature process that involves homogenization, fractionation, and ultrafiltration of porcine and marine tissues. The molecules present in this product are selected based on their size and molecular weight, and are isolated in their native state. Compounds found in the mesenchyme are typically less than 50,000 Daltons, while the compounds present in the marine cartilage extract are less than 500,000 Daltons. Once the molecules are selected, the liquid is aseptically bottled and flash-frozen without preservatives to ensure optimal potency, freshness and bioavailability. This process can be applied to different starting materials, allowing for the creation of liquid extracts that are targeted for specific applications. The extracts created from these tissues are highly bioavailable and of high quality.

Mesenchyme
Mesenchyme is embryonic connective tissue composed of pluripotent cells, or cells that are undifferentiated and have the ability to specialize into almost any type of cell. The mesenchyme tissue used in Xtra-Cell Joint Support† is obtained from embryonic fetal porcine tissue from which cellular growth factors and other signaling molecules are extracted. In vitro data have shown that the components present in the mesenchyme extract may support cellular metabolism as demonstrated by an increase in fibroblast mitochondrial activity without affecting cellular proliferation.† The growth and signaling factors present in mesenchyme can also function to help support proper joint and connective tissue function. †

Marine Liquid Cartilage Extract
Due to the presence of peptides and other signaling factors present in liquid cartilage extract (LCE), it may help to maintain the structure and function of the extracellular matrix as well as support joint and connective tissues. † Compounds present in LCE can help to support the activity of a family of zinc-dependent enzymes known as matrix metalloproteinases (MMPs). † Specifically, MMP-2 MMP-9, and MMP-12 (also known as gelatinase A gelatinase B, and metalloelastase, respectively) have been shown to be involved in the breakdown of the extracellular matrix as well as the breakdown of vascular basement membranes and cartilage†.

INDICATIONS
Xtra-Cell® Joint Support† may be a useful dietary supplement for those who wish to support healthy joint and muscle structure and function. †

FORMULA (#99459)
Each bottle of 9 mL contains:
Marine Liquid Cartilage Extract (LCE) (fish).....0.18 oz (5.25 mL)
Porcine Mesenchyme Aqueous Extract 125X.....0.13 oz (3.75 mL)

SUGGESTED USE
As a dietary supplement, take 1 bottle per day or as directed by your healthcare professional.

SIDE EFFECTS
This product may not be suitable for children 12 years of age or younger, pregnant or nursing women,

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individuals allergic to fish (shark) and/or pork products or persons who have recently had a heart attack.

STORAGE

Keep Frozen. Do not thaw and refreeze. Keep out of reach of children.

REFERENCES

Bruder, S. et al. (1998a). Clin Orthop; (355 Suppl): S247 56.

Caplan AI, Bruder SP. Mol Med. 2001 Jun;7(6):259-64.

Giannelli G, De Marzo A, Marinosci F, Antonaci S. Histol Histopathol. 2005 Jan;20(1):99-106.

Gonzalez RP, et al. Biol Pharm Bull. 2001 Oct;24(10):1097-101. Review.

Janusz MJ, Bendele AM, Brown KK, Taiwo YO, Hsieh L, Heitmeyer SA. Osteoarthritis Cartilage. 2002 Oct;10(10):785-91.

Thibodeau A, Behr S. Townsend Letter for Doctors and Patients 2002.

For more information on Xtra-Cell® Joint Support† visit douglaslabs.com

† 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.

† Extraction process covered under U.S. patent number 5,985,839
† Manufacturing process covered under US patent 5,618,925.5,985,839, 6,025,334, 6,383,522.

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