

Natural support for
complete musculoskeletal health



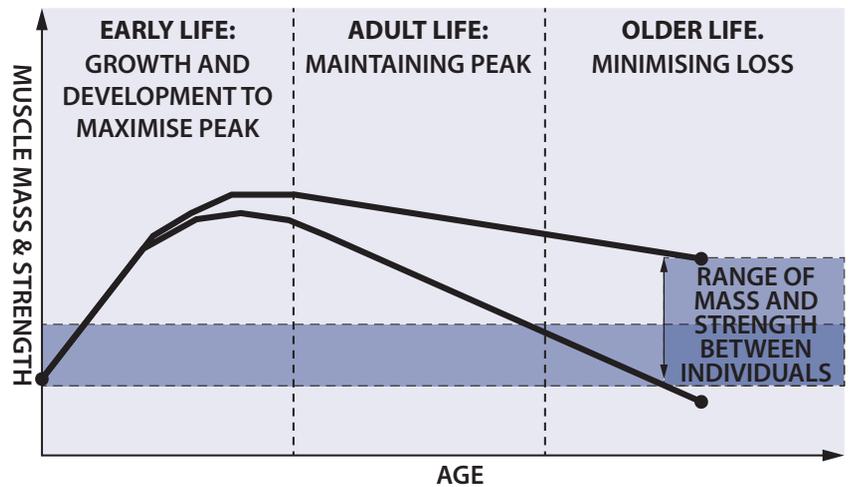
**WAITAKI
BIOSCIENCES**
A DIVISION OF PHARMAZEN LIMITED

CytoC™

contains more than 30 scientifically identified fractions shown to be beneficial to bone, joint, muscle and skin health

Musculoskeletal Health - not just a calcium story

Ageing results in loss of bone density, muscle mass (sarcopenia) and deterioration of joints. The ability to undertake essential weight bearing exercise required for bone density maintenance can be severely inhibited by muscle loss and joint pain.



Loss of muscle mass strongly correlates to increased falls, with the consequence being increases in fracture and morbidity rates¹.

Sarcopenia - a forgotten consequence of ageing

Sarcopenia is an age related degenerative condition that may affect as many as 24 % of people between 65 and 70 years of age². It is characterised by loss of lean muscle mass, quality and strength. This often overlooked consequence of aging can drastically affect quality of life and lead to increased frailty and loss of independence.

**MULTIPLE INTERCONNECTED PROBLEMS
LEAD TO DETERIORATION OF THE
MUSCULOSKELETAL SYSTEM**



CytoC™ - multiple bioactive's in a single ingredient

Highly processed single nutrient solutions, like calcium for osteoporosis, are not the answer, rather, a multi-pronged approach is needed.

CYTOC™ IS AN INNOVATIVE NATURAL INGREDIENT SUPPLYING MULTIPLE BIOACTIVE'S THAT BENEFIT THE ENTIRE MUSCULOSKELETAL SYSTEM.

Protein supplementation is highly beneficial for muscle protein synthesis, providing amino acids that are readily absorbed and utilised by the body .

CytoC™ is made up of a complex matrix of collagen proteins, bone proteins, microcrystalline hydroxyapatite calcium and glycosaminoglycans. The collagen in CytoC™ contains the 8 essential building blocks required for muscle growth, repair and development.

What's more, the bone proteins in CytoC™ have been shown to inhibit bone resorbing osteoclasts, and promote bone matrix formation through their effect on osteoblast differentiation³.

CytoC Component	Benefit
Calcium	Promotes optimal bone mineral density
Type I Collagen	Supports bone strength and flexibility
Type II Collagen	Supports joint health and repair
Amino Acids	Support muscle maintenance and repair
Bone Stimulating Proteins (IGF I & II, TGFβ, Osteocalcin)	Promotes bone remineralisation
Glycosaminoglycans (chondroitin sulphate)	Supports joint health and repair

CytoC™ Manufacture

CytoC™ is manufactured from edible raw materials that are minimally processed to preserve their naturally occurring biological activity.

Alternative products are manufactured from starting raw materials that may not be fit for human consumption and require aggressive "clean up" processes. This results in highly processed finished products with greatly reduced effectiveness.

CytoC™ is a completely natural, unrefined nutritional ingredient with no synthetic additives, manufactured entirely in New Zealand from New Zealand sourced raw materials.



CytoC™

CytoC™ Features

Completely natural nutritional ingredient

Naturally occurring bone and cartilage proteins including type I and II collagen, amino acids, growth factors and glycosaminoglycans, along with crystalline calcium and phosphorous

Manufactured exclusively by Waitaki Biosciences from 100% New Zealand sourced raw materials

No synthetic additives

Non GMO

CytoC™ Profile

Raw Material:	Fine free flowing powder
Particle size:	<250 microns
Colour:	White
Shelf life	3 years
Packaging:	25 kg net weight cartons

CytoC™ Composition

Bioactive	mg per 1000mg capsule	mg per daily dose
Collagen Type I	150	225
Collagen Type II	50	75
Calcium	200	300
Phosphorous	80	120
Glycosaminoglycan	50	75

References:

1. Naranjo, J.D.; Dziki, J.L.; Badyrak, S.F.; Regenerative medicine approaches for age-related muscle loss and sarcopenia: A mini review. *Gerontology*, 2017 63:580-589.

2. Han, A.; Bokshan, S.L.; et al. Diagnostic criteria and clinical outcomes in sarcopenia research: A literature review. *Journal of Clinical Medicine* 2018,7,70.

3. Musson, D.S.; et al. Osteogenic effect of the protein component extracted from hydroxyapatite based products. Department of Medicine, University of Auckland, 2012.



P | +64 3 337 6096
F | +64 3 332 8850

P.O. Box 19-727, Woolston 8241,
Christchurch, New Zealand

www.waitakibio.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to treat, cure or prevent any disease.