

Global Bovine-based Collagen for Biomedical Applications - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Global Bovine-based Collagen for Biomedical Applications Market size is estimated at USD 1.29 billion in 2025, and is expected to reach USD 2.09 billion by 2030, at a CAGR of 10.16% during the forecast period (2025-2030).

COVID-19 had a profound impact on the studied market owing to the cancellations of elective procedures and supply chain disruptions. The market declined in the initial phase of the pandemic. However, the research studies regarding the use of bovine-based collagen in treating COVID-19 and the advantages of the same compensated for the market growth in the later phase. For instance, according to an article published in October 2021, lactoferrin is a natural supplement with antiviral qualities that could be utilized as an adjuvant for COVID-19 and other respiratory tract infections. A protein called lactoferrin is naturally present in breast milk and other fluids in the stomach, nose, eyes, and respiratory tract. It is also present in cow and human milk. Because of its antiviral properties, lactoferrin can be used as a supplement in addition to other medications to treat COVID-19 and other respiratory infections. The studied market is expected to achieve a stable growth rate gradually in the upcoming years, owing to the rising tendency of people toward a healthy lifestyle and the increased demand for functional ingredients such as collagen peptides.

In addition, growing demand for bovine-based collagen to treat various diseases, increasing demand for dental and orthopedic surgeries, and ongoing R&D for the development of wound healing and regenerative medicines are actively affecting the growth of the studied market.

The major factor attributing to the growth of the market is the increasing demand for bovine-based collagen in biomedical applications to treat various medical conditions like arthritis and osteoporosis and to improve skin health. According to the CDC's October 2021 update, about 58.5 million adults in the United States that is 23.7%, or 1 in 4, have arthritis by medical diagnosis.

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Women are more likely than men to have arthritis which is 23.5% more than men by 18.1%. It is predicted that 78.4 million adults are expected to have the condition by 2040. Similarly, as per an article published in the Journal of Orthopaedic Surgery and Research in October 2021, osteoporosis is a common disease all over the world. The prevalence of osteoporosis in women in the world was reported to be 23.1% and while the prevalence of osteoporosis among men in the world was found to be 11.7%. Thus, the high burden of osteoporosis and arthritis boosts the demand for bovine collagen for treatment purposes, which drives the market growth over the forecast period.

Furthermore, the increasing demand for dental and orthopedic surgeries for reconstruction and the rise in research and development of wound healing and regenerative medicines are boosting the market growth. For instance, according to an article published in Basel Journal in November 2021, supplemental collagen from several sources, including porcine, bovine, and marine collagen, can enhance skin integrity and slow the aging process. They work well to reduce wrinkles, rejuvenate the skin, and reverse skin aging. In recent years, oral collagen supplements have gained a lot of popularity. Researchers looked at how oral collagen supplementation affected the dermal collagen network and the hydration of the skin. Thus, the research and development studies carried out on bovine collagen for biomedical applications are expected to accelerate the market in the forecast period.

Therefore, owing to the aforementioned factors, the studied market is anticipated to witness growth over the analysis period. However, the high risk of disease transmission is likely to impede market growth.

Bovine-Based Collagen For Biomedical Applications Market Trends

Bone-graft Substitute Segment is Expected To Hold a Significant Market Share Over The Forecast Period

A bone substitute can be defined as a synthetic, inorganic, or biologically organic combination that can be inserted for the treatment of a bone defect instead of autogenous or allogeneous bone. Bone is mainly made of collagen and carbonate-substituted hydroxyapatite. An implant manufactured from such components is likely to behave better. The ductile properties of collagen help to increase the poor fracture toughness of hydroxyapatites.

The factors boosting segment growth are the increasing prevalence of bone-related diseases like osteoporosis and arthritis. For instance, as per an article published in the International Journal of Environmental Research and Public Health in March 2022, in postmenopausal women in Punjab (India), osteoporosis and osteopenia were found to be present at prevalence rates of 30,50% and 44,20%, respectively. Higher systolic blood pressure, triglyceride levels, poor sleep hygiene, and C-reactive protein levels were found to independently influence the risk of osteoporosis and osteopenia in both univariable and multivariable regression analyses.

Moreover, according to the Juvenile Arthritis Foundation Australia 2022 report, juvenile arthritis is estimated to affect 6,000 to 10,000 Australian children aged 1-16 years, making it as common as childhood diabetes and epilepsy. Also, as per the Arthritis Foundation 2022 report, nearly 300,000 children in the United States have juvenile arthritis. 36% of the surveyed children reported having severe discomfort that significantly limited their daily activities. Many pediatric patients affected by arthritis require procedures to relieve the pain, which is expected to propel the growth of the bone-graft substitute segment during the forecast period.

The aging of populations worldwide will be responsible for a major increase in the incidence of osteoporosis in postmenopausal women and indirectly boost the market growth. Therefore, the above-mentioned factors are expected to drive the market growth of the segment.

North America is Expected to Hold a Significant Market Share Over The Forecast Period

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North America is expected to hold a significant share of the market during the forecast period owing to factors such as the rising incidence of bone-related disorders, the growing geriatric population, better healthcare infrastructure, awareness among people and healthcare industry stakeholders about available technologies, and the high concentration of market players in the region.

According to Statistics Canada's August 2022 update, 657,900 people aged 35 to 49 years, 2,042,100 people aged 50 to 64 years, and 3,138,500 people aged 65 and above had arthritis in 2021. Thus, the increasing prevalence of bone-related diseases like osteoporosis and arthritis in the region is expected to drive the market in the region during the forecast period.

The high prevalence of chronic and acute wounds in the region is also estimated to propel the research studies to develop wound healing and regenerative medicines that use bovine-based collagen and therefore augment the region's growth. For instance, as per Mission Regional Medical Center's 2022 update, it is estimated that 6.7 million people currently live with chronic wounds, and that number is expected to grow by more than 2% in the next decade. Chronic wounds cost the healthcare system more than USD 50 billion each year. In the United States, more than 29 million people (9.5% of the population) have diabetes, and nearly two million of those people are likely to develop a diabetic foot ulcer or another non-healing wound each year. Collagen dressings such as sheets, pads, and gels are usually derived from bovine or porcine collagen. Thus, the high prevalence of wounds is expected to propel the market growth.

Therefore, the factors such as the high prevalence of osteoporosis, arthritis, and chronic and diabetic wounds are expected to drive market growth in the region during the forecast period.

Bovine-Based Collagen For Biomedical Applications Industry Overview

The Bovine-based Collagen for Biomedical Applications market is moderately competitive and consists of several major players. Some of the companies which are currently dominating the market are BBI Solutions, Symatase, Rousselot, FOODMATE CO., LTD., Botiss biomaterials GmbH, Medtronic, Taxus Cadium, KYERON, Collagen Matrix, Inc., DCP Ingredients (DCP B.V.), and LAPI GELATINE S.p.a.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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