

# CRISPR Market Set to Grow Rapidly as Gene Editing Innovations Boost Therapeutics & Agriculture Use | DataM Intelligence

Advancements in gene editing, strategic partnerships, and supportive regulations fuel global CRISPR adoption across healthcare and agriculture.

DELAWARE, DE, UNITED STATES, July 14, 2025 /EINPresswire.com/ -- <u>CRISPR</u> (Clustered Regularly Interspaced Short Palindromic Repeats) technology has revolutionized gene editing by enabling unprecedented precision and affordability. Initially celebrated for its role in knocking out genes during research, CRISPR now underpins applications ranging from novel therapies for genetic disorders to the



development of climate-resilient crops. As the world grapples with healthcare challenges and food security concerns, CRISPR stands at the forefront of innovation.

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#### Market Value and Growth

According to DataM Intelligence analysis, the global CRISPR market was valued at approximately USD 1.4 billion in 2022 and is projected to reach over USD 3.1 billion by 2025, representing a compound annual growth rate (CAGR) of around 35%. This explosive growth reflects not only increased funding for CRISPR-based research but also streamlined regulatory pathways in key regions. The combination of academic breakthroughs and commercial interest has created a robust ecosystem in which startups, biotech giants, and academic institutions all play critical roles.

#### Market Drivers

Several key dynamics are propelling the CRISPR market forward:

• Therapeutic Breakthroughs: Major advances in CRISPR-based therapies for genetic disorders, cancer immunotherapies, and regenerative medicine are translating laboratory success into clinical trials.

• Agricultural Innovation: CRISPR's ability to produce drought-resistant, disease-tolerant, and higher-yielding crops is driving adoption by agri-biotech firms seeking sustainable solutions.

• Lowered Costs and Improved Access: As CRISPR reagents, delivery systems, and analytical tools become more affordable, smaller biotech startups and academic labs can participate in gene editing research.

• Favorable Regulations: Several countries are refining regulatory pathways specifically for geneedited products—accelerating development timelines compared to traditional GMOs.

• Strategic Collaborations: Partnerships between biotech giants, academic institutions, and contract research organizations (CROs) are pooling expertise and resources, expediting innovation.

## **Regional Outlook**

## North America

North America leads the CRISPR market, holding over 40% of global patent filings, according to DataM Intelligence. The United States, in particular, benefits from robust NIH funding, numerous CRISPR-focused research centers, and a streamlined FDA pathway for gene therapies. Canada also contributes through supportive provincial programs that encourage biotech innovation.

## Europe

Europe is experiencing steady growth, fueled by pan-European research consortia and increasing public funding under Horizon Europe. The European Medicines Agency (EMA) has clarified guidelines for gene-editing clinical trials, encouraging biotech firms to initiate first-in-human studies.

#### Asia-Pacific

According to DataM Intelligence, the Asia-Pacific region is the fastest-growing segment, with China, Japan, and South Korea spearheading national genomics initiatives. China has invested heavily in CRISPR research laboratories and manufacturing capabilities. Japan's government supports translational research in CRISPR-based regenerative medicine, while South Korea promotes public-private partnerships to develop CRISPR-derived therapeutics.

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Major stakeholders shaping the CRISPR landscape include:

• Editas Medicine: Focused on developing CRISPR/Cas9-based therapies for inherited retinal diseases.

• CRISPR Therapeutics: Collaborating with Vertex Pharmaceuticals to advance CRISPR-based treatments for sickle cell disease and β-thalassemia.

• Intellia Therapeutics: Developing in vivo CRISPR therapeutics targeting liver diseases.

• Caribou Biosciences: Leveraging CRISPR/Cas12a for next-generation gene editing with potential immuno-oncology applications.

• AgriGenomics Solutions: A rising startup using CRISPR to engineer climate-resilient crop varieties for smallholder farmers.

Latest Developments:

In March 2025, Caribou Biosciences partnered with Fred Hutch to explore next-generation CRISPR/Cas12a applications in immuno-oncology, aiming to develop novel engineered T-cell therapies.

In January 2025, CRISPR Therapeutics expanded its collaboration with Vertex Pharmaceuticals to advance in vivo CRISPR therapies for liver diseases. This extension covers both preclinical work and early clinical trial design.

In September 2024, Intellia and Regeneron inaugurated a co-development pipeline focusing on CRISPR-based treatments for transthyretin amyloidosis, with Regeneron providing extensive drug development support.

Latest News from USA (2025)

In March 2025, the U.S. Food and Drug Administration (FDA) approved the first human clinical trial for a CRISPR-based therapy targeting Duchenne muscular dystrophy (DMD). Developed by a collaboration between a leading academic medical center and a biotech firm, this trial uses in vivo CRISPR/Cas9 delivery via lipid nanoparticles to correct dystrophin gene mutations. Early preclinical data revealed restored muscle function in animal models, igniting hope for families affected by this debilitating childhood disease.

Latest News from Japan (2025)

In April 2025, Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) announced funding for a five-year initiative to develop CRISPR-engineered rice varieties resistant to bacterial blight and blast fungus. Partnering with Kyoto University and three agricultural research institutes, this initiative aims to secure stable rice yields amid changing climate patterns.

#### Conclusion:

The CRISPR market's rapid ascent underscores a broader shift toward molecular precision across healthcare and agriculture. As gene editing tools become more sophisticated, cost-effective, and widely accepted, stakeholders must navigate ethical, regulatory, and safety considerations. Yet the promise of curative therapies for genetic diseases, coupled with sustainable crop improvements, makes 2025 a pivotal year for CRISPR adoption. By fostering transparent collaborations and investing in responsible innovation, the global community stands poised to reap the transformative benefits of CRISPR technology.

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