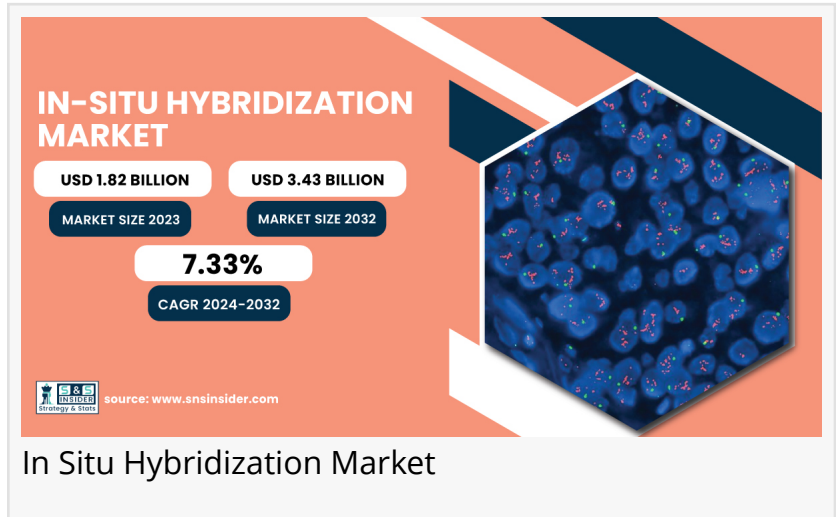


In-Situ Hybridization Market to Surge to USD 3.43 Billion by 2032 | SNS Insider

Valued at \$1.82 Bn in 2023, the market is set to grow at 7.33% CAGR driven by innovations in molecular diagnostics.

AUSTIN, TX, UNITED STATES, February 24, 2025 /EINPresswire.com/ --

According to Research by SNS Insider, The [In Situ Hybridization Market](#) was estimated at USD 1.82 billion in 2023 and is expected to reach USD 3.43 billion by 2032, at a CAGR of 7.33% during the forecast period of 2024-2032.



The In Situ Hybridization (ISH) Market is witnessing high growth, facilitated by developments in molecular diagnostics and expanding uses in the detection of cancer and genetic disorders. The market is likely to grow considerably with growing adoption in research and clinical diagnostics. Advances in fluorescence in situ hybridization (FISH) and chromogenic in situ hybridization (CISH) are improving accuracy and efficiency, leading to growing demand in pathology labs, academic research, and pharma research.

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Key Players in In Situ Hybridization Market

- Agilent Technologies Inc. (FISH Probes, CISH Probes)
- F. Hoffmann-La Roche Ltd. (VENTANA BenchMark XT, INFORM HER2 Dual ISH DNA Probe Cocktail)
- Thermo Fisher Scientific Inc. (ViewRNA ISH Cell Assay Kit, QuantiGene ViewRNA ISH Tissue Assay)
- BioGenex Laboratories (Xmatrx Elite, FISH Kits)
- Abnova Corporation (RNA ISH Probes, DNA FISH Probes)
- Biocare Medical LLC. (ZytoLight FISH Probes, ZytoDot CISH Probes)
- Genemed Biotechnologies Inc. (FISH Probes, CISH Detection Kits)
- Zytomed Systems GmbH (ZytoFast PLUS CISH Implementation Kit, ZytoLight SPEC ALK Dual

Color Break Apart Probe)

- Creative Bioarray (RNA FISH Probes, DNA FISH Probes)
- Bio SB Inc. (Tinto FISH Probes, CISH Detection Systems)
- Abbott Laboratories (Vysis ALK Break Apart FISH Probe Kit, Vysis CLL FISH Probe Kit)
- Danaher Corporation (Leica BOND-III, RNAscope ISH Detection Kit)
- Bio-Techne Corporation (RNAscope Assay, BaseScope Assay)
- Oxford Gene Technology (Cytocell Aquarius FISH Probes, Cytocell Chromoprobe Multiprobe System)
- PerkinElmer Inc. (QuantiGene ViewRNA ISH Tissue Assay, ViewRNA eZ-L Detection Kit)
- Merck KGaA (Panomics QuantiGene ViewRNA ISH Cell Assay, ViewRNA ISH Tissue Assay)
- Advanced Cell Diagnostics Inc. (RNAscope Multiplex Fluorescent Reagent Kit, BaseScope Duplex Assay)
- Exiqon A/S (miRCURY LNA microRNA ISH Optimization Kit, miRCURY LNA microRNA Detection Probes)
- Molecular Instruments Inc. (HCR RNA-FISH Probes, HCR Amplification Kits)
- ACD - A Bio-Techne Brand (RNAscope HiPlex Assay, RNAscope 2.5 HD Assay)

By Technology, the Chromogenic In Situ Hybridization (CISH) market is expected to witness the fastest growth over the forecast period at a CAGR of 7.71%.

The fastest growth is primarily due to cost-effectiveness, simplicity in interpretation with an ordinary brightfield microscope, and greater popularity in the absence of sufficient resources. Since CISH doesn't demand sophisticated fluorescence microscopes, in the case of Fluorescence In Situ Hybridization (FISH), it can easily be employed for routine use by clinical labs. Its growing use in pathology laboratories, especially to identify cancer biomarkers like HER2 and HPV, is driving its uptake. Furthermore, innovations such as dual CISH assays and automation are streamlining its performance and accuracy. Growing needs for low-cost molecular diagnostics in the developing world, as well as CISH's capacity to offer stable, long-term findings without fluorescence signal loss, are also fueling its worldwide market growth.

By Probe, the DNA probe segment dominated the market in 2023 with a 58.41% market share.

The dominance is owing to its widespread application in cancer diagnosis, genetic disorder detection, and chromosomal studies. DNA probes are extremely accurate for detecting gene amplifications, deletions, and rearrangements and are thus critical in cytogenetics and prenatal screening. The increasing need for HER2, ALK, and EGFR gene testing in oncology has also contributed to their extensive use. Moreover, Fluorescence In Situ Hybridization (FISH) and Chromogenic In Situ Hybridization (CISH) methods mainly employ DNA probes for the identification of structural chromosomal aberrations, further asserting their dominance. Companion diagnostics approvals by regulatory agencies for DNA probes and their adoption in automated hybridization platforms have further entrenched their market leadership, making them the gold standard for molecular diagnostics.

By Product, the Instruments segment dominated the In Situ Hybridization (ISH) market in 2023 with a 34.12% market share.

Instruments are driven mainly by the growing adoption of automated ISH platforms that improve efficiency, accuracy, and reproducibility in diagnostic and research labs. The growing need for high-throughput systems, including automated slide stainers and hybridization workstations, has largely driven this segment's leadership. These sophisticated tools optimize the ISH process, eliminating human mistakes and enhancing turnaround times, making them critical in clinical diagnostics, cancer research, and genetic testing. Moreover, industry leaders have incorporated state-of-the-art imaging and digital pathology technologies with ISH methods for accurate biomarker visualization and quantification. The growth of centralized pathology laboratories and molecular diagnostic facilities and increasing regulatory clearances for automated ISH instruments also further strengthened this segment's leadership in 2023.

By End-use, the CROs (Contract Research Organizations) segment is experiencing the fastest growth during the forecast period In the Situ Hybridization (ISH) market.

As pharmaceutical and biotech firms outsource more drug development, biomarker studies, and companion diagnostics. CROs provide cost-efficient, high-throughput ISH testing services to perform efficient molecular diagnostics and clinical trial support. Increased demand for targeted therapies and personalized medicine has fueled the increased use of ISH in oncology studies, genetic tests, and infectious disease research, enhancing the market position of CROs. Technological upgrades in automated ISH systems, AI-based image analysis, and digital pathology integration have also improved CROs' ability to provide accurate and scalable testing solutions. The increased trend of collaborations between biopharmas and CROs for biomarker validation and regulatory studies has made them the leading force in 2023.

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North America dominated the In Situ Hybridization (ISH) Market with a 45.25% market share in 2023.

The region's dominance is based on its strong healthcare infrastructure, increased adoption of molecular diagnostics, and heavy investment in genomic studies. Major biotech and pharmaceutical companies' presence, coupled with substantial government grants for cancer and genetic disorder studies, has fueled market leadership. Moreover, growing instances of cancer and infectious diseases in the U.S. and Canada, coupled with sophisticated laboratory infrastructure and expertise, continue to propel the region's dominance in ISH diagnostics.

Asia-Pacific is the fastest-growing region in the ISH market, with 8.43% CAGR throughout the forecast period because of growing healthcare expenditures, rising instances of genetic diseases, and enhanced emphasis on personalized medicine. China, India, and Japan are among the

countries that are quickly developing their molecular diagnostic capacities, backed by government programs for cancer screening and infectious disease control. The increasing biotechnology industry, increased healthcare consciousness, and increasing research collaborations are factors that drive the rapid uptake of ISH technologies, making Asia-Pacific a major growth driver in the next few years.

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