

Unnatural Amino Acids - Increasing Applications in Pharmaceuticals

RI Technologies' market research study on Unnatural Amino Acids - market is driven by derivatives that find large applications in pharmaceuticals.

HYDERABAD, TELANGANA, INDIA, December 30, 2015 /EINPresswire.com/ -- RI Technologies' market research report on [Unnatural Amino](#)

[Acids](#) gives a market insight into the different types of Unnatural Amino Acids (β -Amino Acids,

β -Amino Acid Derivatives, Cyclic Amino Acids & Derivatives, D-Amino Acids, D-Amino Acid Derivatives, DL-Amino Acids, DL-Amino Acid Derivatives, L-Amino Acid Derivatives and Other) and their application areas such as R&D, Pharmaceutical, Food & Feed, Agrochemicals and Other applications.

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Anasuya Vemuri

The study includes estimates and projections for the global Unnatural Amino Acids by type and applications. Regional Analysis is covered separately for North America (United States and Canada); Europe (UK, Germany, Switzerland, Italy, The Netherlands, and Rest of Europe; Asia Pacific (China, Japan, India, South Korea, Australia, and Rest of Asia Pacific); and Rest of World.

Business profiles of 57 major companies are discussed in the report. The report serves as a guide to global Unnatural

Amino Acids industry covering more than 1000 companies that are engaged in Unnatural Amino Acids R&D, synthesis, discovery, testing and supply of derivatives, products and services. Information related to industrial activity, corporate developments, research trends, product releases, product developments, partnerships, collaborations, and mergers and acquisitions is also covered in the report.

Research - As Good as the Methodology is!

Development of selective peptide receptor ligands with orally administered drug properties has progressed rapidly in the past decade. Non-natural amino acids are accepted major tool to prepare peptide ligand mimetics with superior biological activity and proteolytic resistance. Non-natural amino acids have applications as pharmacologically active products, molecular scaffolds, conformational constraints and building blocks. They embody an almost countless array of different structural elements to develop new therapeutic drugs. In the field of pharmaceuticals, unnatural amino acids are found to have a very important role to play. Chiral amines also have an industrial significance and importance in the fine chemical arena and this is because of their use as resolving agents, catalysts for asymmetric synthesis, and chiral bases.



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About 18% of the leading drugs and agrochemicals include amino acids in their synthesis. Unnatural amino acids can make proteins 30 times more effective in treating cancer. For example, L-Homophenylalanine is an unnatural amino acid and is an effective drug for the therapy of hypertension and congestive heart diseases. Diagnostic / Therapeutic medicine are the important application area of unnatural amino acids.

Owing to the growing importance of unnatural amino acids as pharmaceutical intermediates, a range of methods are being developed for their enantiomerically pure preparation. Regularly employed processes consist of resolutions by diastereomeric crystallization, enzymatic resolution of derivatives, partition by simulated moving bed (SMB) and chiral chromatography. These methods are adopted to separate racemic mixtures but the highest hypothetical yield is expected to be around 50%.

For non-proteinogenic L-amino acids such as L-nor-valine, L-nor-leucine, L-2-amino-5-[1-3], dioxolan-2-yl-pentanoic acid, L-tert-leucine and others; the preferred method for their synthesis is enzymecatalyzed reductive aminations.

Optically clean unnatural amino acids are becoming more and more significant as pharmaceutically active compounds. Chiral directing auxiliaries, and chiral synthons are widely being used in organic synthesis. The use of D-amino acids in the production of semi-synthetic antibiotics is increasing very fast and is being widely preferred. The drugs - ampicillin and amoxicillin - are produced using D-phenylglycine and p-hydroxy-Dphenylglycine respectively. These drugs are found to be broad-based and more stable compared to enzymatic degradation than naturally occurring (benzyl) penicillin. The production quantity of p-Hydroxy-D-phenylglycine ranges in several kilotons per year.

For more information please contact us - contactus@researchimpact.com

About RI Technologies

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