



November 29, 2013

European Patent Allowed for 22nd Century's Nicotine Biosynthesis Genes

CLARENCE, N.Y.--(BUSINESS WIRE)-- 22nd Century Group, Inc. (OTCBB: [XXII](#)) today announced that the European Patent Office issued a Notice of Grant to the company for the NBB and A622 genes. Both genes are responsible for nicotine production in the tobacco plant. International Patent Application PCT/IB2006/004043, from which European Patent Application No. 06848676.0 was derived, covers methods for producing tobacco plants with increased nicotine levels and tobacco plants and products produced therefrom. Patents will be issued by the European Patent Office in countries selected by 22nd Century within the next few months and will expire in September 2026.

Dr. Takashi Hashimoto of the Nara Institute of Science and Technology (NAIST), a world-renowned plant molecular biologist, is an inventor of the technology. 22nd Century funded research and development at NAIST from 2005 to 2009 and NAIST assigned various related patent families to 22nd Century in 2010, including the NBB and A622 technologies. International Patent Application PCT/IB2006/001741 covers methods utilizing NBB and A622 for producing tobacco plants and products with decreased nicotine levels.

The NBB gene encodes a protein involved in the final step of nicotine biosynthesis, "nicotine synthase," which has eluded scientists for decades. This protein can either be down-regulated or up-regulated to produce tobacco varieties with a wide range of nicotine levels.

The company's vice president of research and development, Dr. Michael Moynihan stated, "The NBB gene technology is one of the keystones of 22nd Century's intellectual property and represents our second-generation gene technology that has significant advantages over our earlier technology." Specifically, the sole function of NBB is to produce nicotine and other nicotinic alkaloids.

For additional information, please visit: www.xxiicentury.com

About 22nd Century Group, Inc.

22nd Century is a plant biotechnology company whose proprietary technology allows for the levels of nicotine and other nicotinic alkaloids (e.g., normicotine, anatabine and anabasine) in the tobacco plant to be decreased or increased through genetic engineering and plant breeding. 22nd Century owns or is the exclusive licensee of 114 issued patents in 78 countries plus an additional 36 pending patent applications. Goodrich Tobacco Company, LLC and Hercules Pharmaceuticals, LLC are wholly-owned subsidiaries of 22nd Century. Goodrich Tobacco is focused on commercial tobacco products and potential modified risk cigarettes. Hercules Pharmaceuticals is focused on X-22, a prescription smoking cessation aid in development.

Cautionary Note Regarding Forward-Looking Statements: This press release contains forward-looking information, including all statements that are not statements of historical fact regarding the intent, belief or current expectations of 22nd Century Group, Inc., its directors or its officers with respect to the contents of this press release. The words "may," "would," "will," "expect," "estimate," "anticipate," "believe," "intend" and similar expressions and variations thereof are intended to identify forward-looking statements. We cannot guarantee future results, levels of activity or performance. You should not place undue reliance on these forward-looking statements, which speak only as of the date that they were made. These cautionary statements should be considered with any written or oral forward-looking statements that we may issue in the future. Except as required by applicable law, including the securities laws of the United States, we do not intend to update any of the forward-looking statements to conform these statements to reflect actual results, later events or circumstances, or to reflect the occurrence of unanticipated events. You should carefully review and consider the various disclosures made by us in our annual report on Form 10-K for the fiscal year ended December 31, 2012, filed on March 18, 2013, including the section entitled "Risk Factors," and our other reports filed with the U.S. Securities and Exchange Commission which attempt to advise interested parties of the risks and factors that may affect our

business, financial condition, results of operation and cash flows. If one or more of these risks or uncertainties materialize, or if the underlying assumptions prove incorrect, our actual results may vary materially from those expected or projected.

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Source: 22nd Century Group, Inc.