

# EVOGENE: accelerating NATURAL EVOLUTION processes



Evogene is an agro-biotechnology company specializing in developing high-value commercial products based on plant genomics. Evogene's core technology platforms mimic and accelerate natural evolutionary processes. Applicable to the burgeoning field of agro-biotechnology, the platforms are being used to produce superior crops with novel and improved traits. Currently the company has a working model of various strands of tomatoes.

With a growing base of intellectual property, and collaborative development agreements with a number of strategic partners, Evogene's mission is to emerge a leading developer of plant based products and technologies that have the potential to accelerate discovery processes.



OPEN BOTTLENECKS IN  
BIOTECHNOLOGY PROCESSES TO  
PRODUCE PLANT-BASED COMPOUNDS  
WITH HIGH ECONOMICAL VALUES  
ACCELERATE PRODUCTION PROCESSES  
DEVELOP NEW PRODUCTS BASED ON  
NATURAL EVOLUTION-BASED  
TECHNOLOGY

## Accelerating Natural Evolution Processes

By identifying and isolating the genomic data on an entire plant kingdom, and applying advanced computational technologies, Evogene platforms enable the mimicking and acceleration of natural evolutionary process in plants. This approach enables us to overcome the limitations of current genetic variation, and meet changing demands. By accelerating the evolution, Evogene researchers are in fact mimicking natural processes. This use of molecular tools and techniques to rapidly create new genetic diversity in plants is preferable to relying on genetic engineering or specific genetic modification. Mimicking natural processes, accelerated by Evogene's technology, generates the desired characteristics of the crop.

## The Evogene Process

Evogene applies its proprietary technologies to isolate the genomic components associated with specific genomic functions by applying computational and biological tools to public plant genome databases. These genomic components are tested on plant specimens for functional verification. Evogene then creates new targeted genetic diversity in plants.

*Evogene is an independent subsidiary of Compugen Ltd. (NASDAQ: CGEN). The company was established in 2002, after operating for two years as a separate division of Compugen. Founded by Dr. Hagai Karchi, Dr. Rafael Meissner and Compugen, Evogene integrates computational biology and advanced molecular biology approaches to formulate an optimized breeding process used to develop plant-based products and superior crops. Evogene has a licensing agreement with Compugen securing access to leading bioinformatics capabilities, as well as a licensing agreement with the Weizmann Institute of Science on its "Tomato Gene Machine" (TGM) system.*

*Evogene is located in Rehovot, Israel, where it maintains greenhouses, laboratories, a plant growth room and corporate headquarters. The company employs a multidisciplinary team of professionals from the fields of plant genomics, molecular biology, computational biology, database and information technology, and classical breeding.*



## COMPANY PROFILE

Evogene's business strategy is to further develop and expand its high-throughput directed evolution processes via collaborative agreements with strategic partners—leveraging technological synergies and access to downstream markets, such as Agro-biotechnology, food and feed products.

A number of important collaborative tools and licensed services, derived from the company's core technologies, are currently available for commercial use and research collaboration. These include:

### “Green & Clean:” Creating New Genetic Diversity

to Overcome Concerns Presented by Genetically Modified Organisms (GMOs)

“Green and Clean” technology is a novel approach to create new genetic diversity by mimicking and accelerating natural evolutionary processes, avoiding limitations inherent in sexual reproduction and GMOs.

### “Gene-to-Field” Integrated Information Management System

Evogene's proprietary integrated Information Management System manages and enhances the vast amount of data derived from merging computational biology, molecular biology, plant genetics, tissue culture, plant transformation and classical breeding. This management system generates a powerful database, which keeps track of knowledge created in the development process, using computational and molecular biology tools on DNA sequences to the plant in the field and upgrades the database information

### PROMINE “Promoter Mining:” Focusing on the Potential of DREs

Evogene maintains a proprietary database of plant DNA Regulatory Elements (DREs) using PROMINE mining technology. This involves molecular and in-plant biological validation approaches unique to Evogene, and based on proprietary implementation industry's most advanced computational toolset licensed from Compugen.

### TGM—“The Tomato Gene Machine:” Gene Discovery and Function Identification

Evogene's “Tomato Gene Machine” is a patent-pending reverse genetics system, licensed from the Weizmann Institute of Science, for high throughput mutagenesis and gene discovery. It provides an industrialized system for discovering, isolating and identifying the function of Coding Regions (CRs) and DREs in tomatoes. The results of this system are available for commercial use.

### MPS: High Throughput Breeding

Evogene enhances the power of classical breeding with a high throughput breeding approach using its proprietary MPS (Miniature Plant Acceleration System).

These products and R&D collaborations, as well as others in the company's pipeline, are available for licensing and strategic partnership opportunities.



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