

From Weizmann Pipeline to Industry Bottom Line



Yeda

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Yeda Research and Development Company Ltd. is the commercial arm of the Weizmann Institute of Science (WIS). Yeda initiates and promotes the transfer to the global marketplace of research findings and innovative technologies developed by WIS scientists. Yeda holds an exclusive agreement with the Weizmann Institute to market and commercialize its intellectual property and generate income to support further research and education.

Yeda performs the following activities

- Identifies and assesses research projects with commercial potential.
- Protects the intellectual property of the Institute and its scientists.
- Licenses WIS inventions and technologies to industry.
- Channels funding from industry to research projects

Yeda Statistics for 2006-2007

- Over **3000 introductions** & presentations of WIS Technologies to companies.
- Over **250 presentations** of confidential information to interested companies (under signed secrecy agreements).
- Over **40 new license** and option agreements signed.
- Over **80 research projects** at WIS were funded through Yeda by companies, by the chief scientist of the ministry of industry and trade and by Yeda itself, including through joint funds with companies such as Johnson & Johnson.
- Over **200 patent disclosures** submitted by WIS scientists

Spanning the Natural Sciences

WIS research and technologies cover a broad spectrum of the natural sciences, including:

- Biotechnology, Pharmaceuticals and Diagnostics
- Bioinformatics, Proteomics, Biomaterials & Systems Biology
- Medical Devices
- Renewable Energy, Bio-fuels, Cleantech and Environmental Sciences
- Agriculture and Plant Genetics
- Chemistry and Nanotechnology
- Physics and Electro-Optics
- Mathematics and Computer Science

Proven Commercial Success

Since its establishment in 1959, Yeda has entered into formal agreements with prominent investment groups and commercial enterprises, including several large multinational corporations.

Copaxone® (Glatiramer Acetate), the first innovative drug to be developed in Israel and to receive FDA approval, Copaxone® is a unique multiple sclerosis immunomodulator: the first non-interferon agent for the treatment of relapsing-remitting multiple sclerosis. Copaxone® is licensed to **Teva Pharmaceuticals Ltd.** Sales in 2007 exceeded 1B\$ with a market share around 25%.

Erbix®, an antibody based therapy presenting **synergism** with conventional chemotherapy. The synergistic effect was invented at the Weizmann Institute. Erbix was developed by **ImClone Systems** and approved by the FDA in 2001. **Imclone** has a license to the synergism patent. Erbix Sales in 2007 exceeded 1B\$.

Frone® (Native interferon β , IFN β), licensed to **Merck-Serono**, and used as an antiviral and anti-cancer drug, with sales exceeding 40\$ million annually, until replaced by Rebif®.

Rebif® (Recombinant IFN β), recombinant IFN β is registered for the treatment of multiple sclerosis and several viral diseases, licensed to **Merck-Serono**. Sales in 2007 exceeded 1B\$ with a market share around 25%.

Encryption Algorithm, this algorithm is licensed to **NDS Ltd.**, and is widely used as the basis for television set-top box smart cards. To date, over 50 million smart cards are in use throughout the world.

GeneCards®, a compendium of human genes and their encoded proteins, with major focus on functional genomics and medical aspects including involvement in diseases. GeneCards® offers concise information about the structure and function of human genes. **GeneCards®** is licensed to **Xennex Inc.** GeneCards® is widely used by pharmaceutical and biotech companies worldwide.

QX Capsules, the QX capsule allows for fast, easy and artifact-free imaging of wet samples in Scanning Electron Microscopy (**WETSEM™ Technology**) with applications ranging from biology, through diagnostics & pharmaceuticals, to the food, oil and dye industries. Licensed to **Quantomix Ltd.**

NanoLub™, is the world's first commercial solid lubricant based on spherical inorganic nanoparticles. NanoLub™ reduces friction & wear significantly better than conventional lubricants. Licensed to **Nanomaterials Inc.** The company has been selected for the prestigious Red Herring Top 100 INNOVATORS Award for 2004.

Dunaliella (Beta-carotene), a health food product with possible anti-cancer properties, extracted from Dunaliella, a local alga, licensed to **Nikken Sohonsha Corporation**

Alpha D₃®, A vitamin-D derivative discovered by WIS researchers and produced under license by **Teva Pharmaceuticals Ltd.** for the treatment of osteoporosis and bone decalcification

Improved crop varieties and hybrid cultivars of cucumbers and melons are under license to Israeli seed companies.

Bio-Hep B®, a recombinant hepatitis B vaccine that integrates the S, pre-S1, and pre-S2 surface proteins of the hepatitis B virus. Enables successful immunization with significantly lower doses of vaccines than other recombinant hepatitis B vaccines. Licensed to **Ferring Inc.**

In the pipeline

DiaPep277®, peptide vaccine for the treatment of type I diabetes, acts to protect the insulin producing β -cells from autoimmune destruction. DiaPep277® is licensed to **Andromeda** (a subsidiary of Clal Biotechnology Industries) and has successfully completed phase II clinical development. A pivotal phase III trial for the treatment of type 1 diabetes is ongoing.

Locteron® (recombinant IFN α , LEX System), a recombinant IFN α produced in Biolex's proprietary **LEX System(SM)** which is under license from Yeda, combined with Biolex' advanced controlled-release drug delivery technology. Currently in phase IIa clinical trials for HCV.

Ora 101, novel angiogenesis inhibitor drug, characterized by its unique target specificity, lack of toxicity and by its oral bioavailability. Currently in phase II clinical trials for lung cancer. Licensed to **ORA BIO Ltd.**

INS 115644, disrupts the acto-cytoskeleton of the trabecular meshwork in the eye, reduces intraocular pressure and thus serves as a potential treatment for glaucoma. Developed and owned jointly with University of Wisconsin and its TTO (WARF) & licensed to **Inspire Pharmaceuticals Inc.** Currently in phase I clinical trials to evaluate the safety and tolerability in subjects with bilateral ocular hypertension or early primary open angle glaucoma.

Yeda has also participated in the establishment of a large number of companies for development of WIS discoveries, with many new companies established in recent years, including **OraBio, Salio, ImmunArray, Braintact, Hy-Biopharma, IDEA BioMedical, Biovent, Thera-P, HelioFocus, Vacciguard, and AllergyFight.**

Weizmann Scientists

Yeda controls an internal **Yeda CEO Fund**. This fund aims to support projects that are close to commercialization and due to their practical nature can not be funded by regular scientific research grants. More information is available on our website.

Contact us! We are interested in receiving your patent disclosures, requests, feedback & comments.

Seeking Additional Partners

Yeda partnered with many multinational entities such as Novartis, Baxter, Pfizer, Sanofi-Aventis, Johnson & Johnson, Merck-Serono, Teva, Invitrogen & others. We are actively seeking **additional commercial partners** and entrepreneurs that can bring WIS technologies to the marketplace.

Additional information on the business opportunities offered by Yeda, can be found at: www.YedaRnD.com

