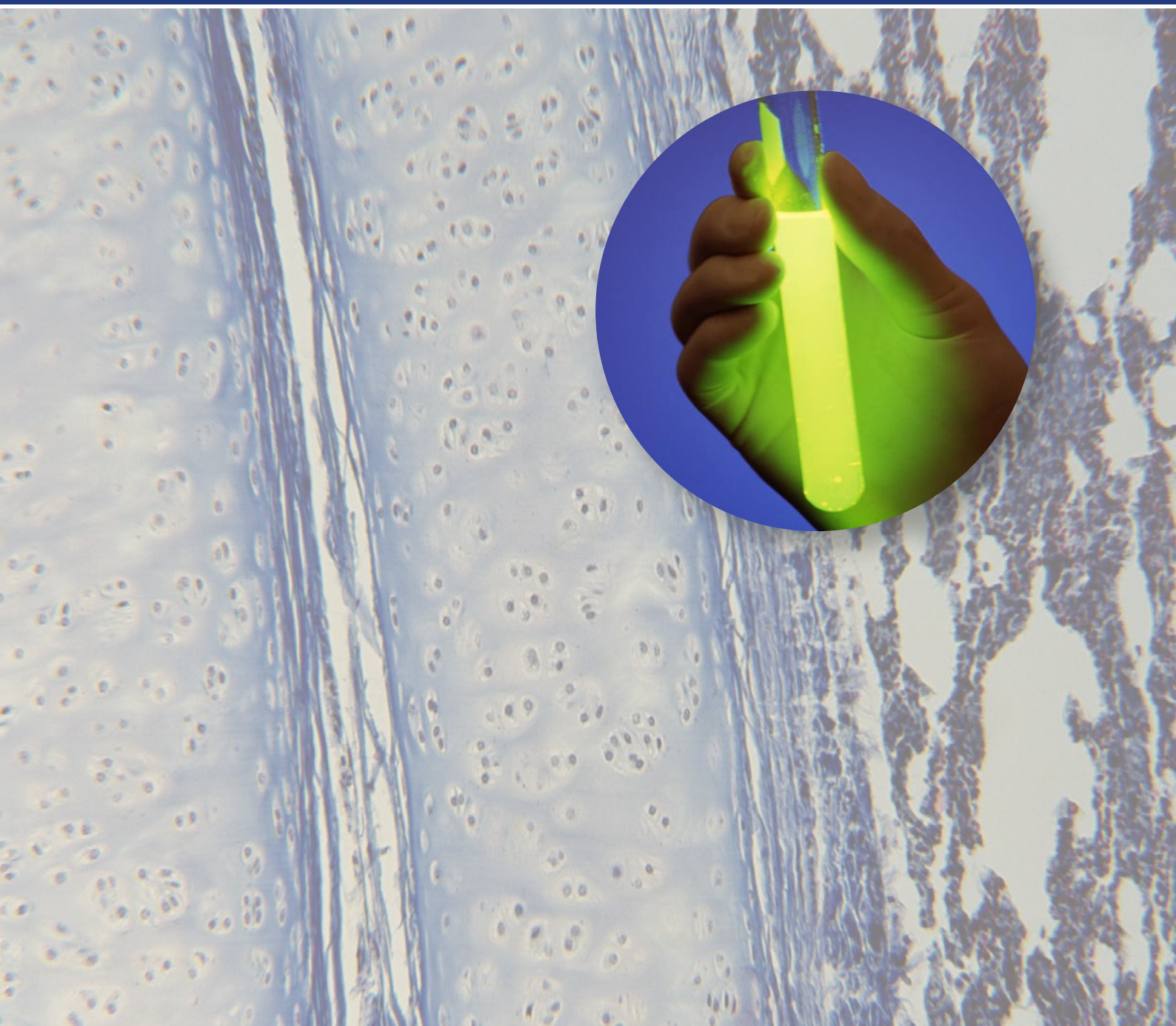


Biotechnology and Pharmaceuticals in Latvia



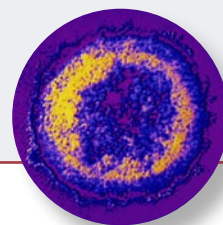
LATVIJAS INVESTĪCIJU UN ATTĪSTĪBAS AĢENTŪRA
LATVIAN INVESTMENT AND DEVELOPMENT AGENCY

Key Facts and Figures

International memberships	EU and NATO since 2004 WTO since 1998
Capital	Riga
Other major cities	Ventspils, Liepaja, Daugavpils, Jelgava, Jurmala
Population (2004)	2.32 million
Area	64 589km ²
Language	Latvian (official); Russian, English and German are also widely spoken
Currency	1 'Lats' (LVL) = 100 'santims'
Exchange rate	1 LVL = 1.42 EUR (fixed rate as of January 1, 2005) 1 LVL = 1.85 USD (average in 2004)
GDP growth (2004)	8.5%
Inflation (2004)	6.2%
Accumulated FDI	3.45 billion EUR

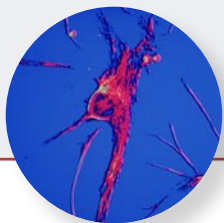
Source: Central Statistical Bureau of Latvia, 2005





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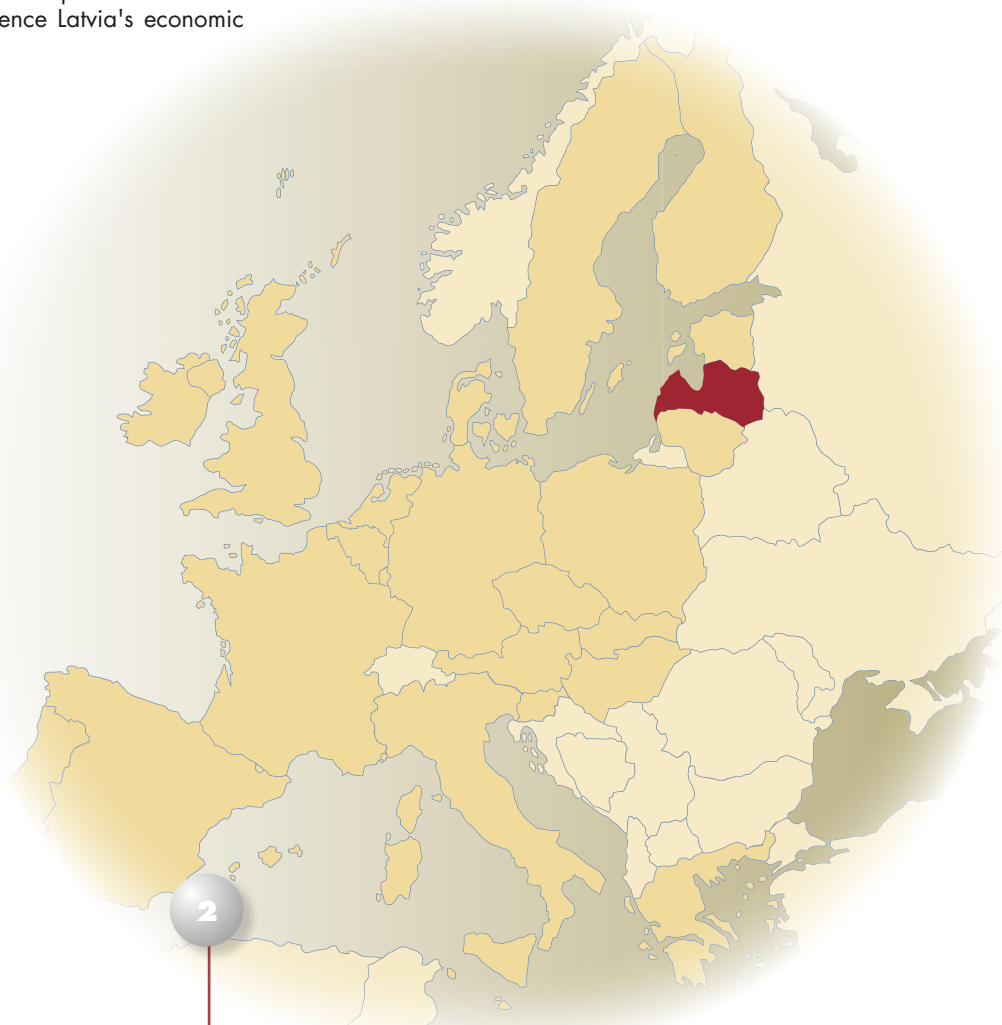
Latvia - a Competitive Location for the Biotechnology and Pharmaceutical Industries

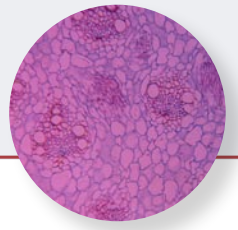
The country's long experience and traditions, the availability of highly qualified specialists, cost efficiency, high competence in R&D and a strong manufacturing base are the factors that form an excellent foundation for business and innovative activities in Latvia's burgeoning bio/pharma sector.

Latvia is a fast growing and business-friendly European country providing investors with an environment which guarantees them competitive advantage in the European market.

Location

Located at the frontier of the newly-extended EU and in the heart of northern and eastern Europe, Latvia has access to existing large biotechnology centres in the Baltic Sea region – Sweden, Denmark, Russia (St. Petersburg) and to emerging ones – Norway, Finland, Estonia and Lithuania. The strategic location of Latvia has been the major influence on the country's diverse historical and cultural experiences. To this day, that location continues to influence Latvia's economic success.





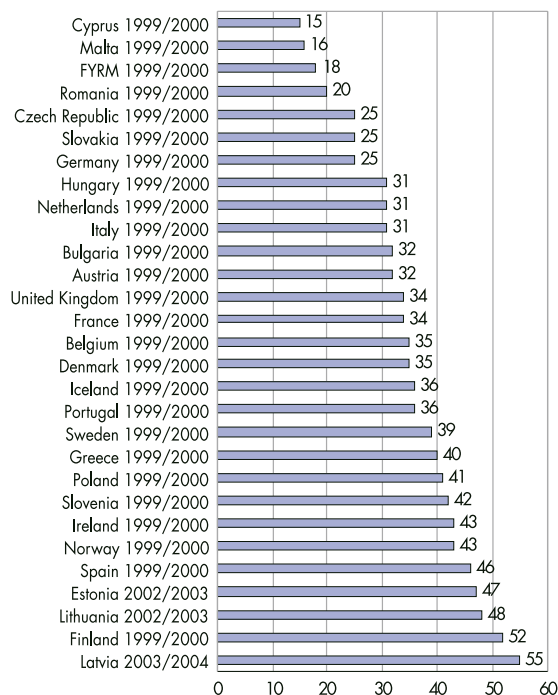
Availability of High Quality Specialists

Latvia has the highest per capita ratio of students in Europe and this maintains the inflow and availability of new specialists in the labour and intellectual capacity markets. The natural sciences and technology are currently experiencing increased demand as a direct result of the need for these skills in the expanding industrial sector.

Higher education in bio/pharma related fields is offered by the University of Latvia, Riga Stradins University and Riga Technical University, all located in Riga, and the Latvian University of Agriculture in Jelgava.

There are growing numbers of students in all branches connected with the bio/pharma sector, various fields in health and pharmacy being the most popular.

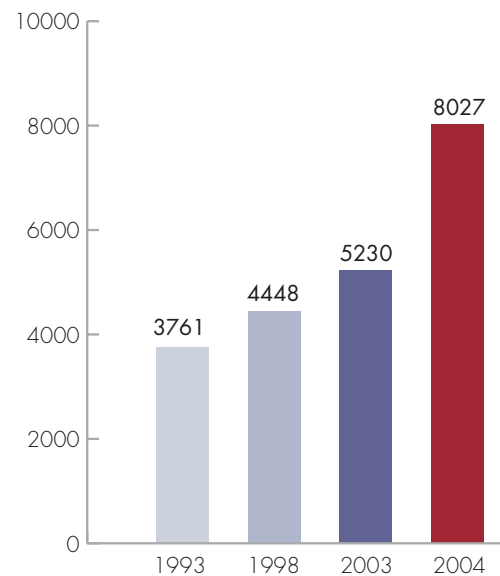
Students in Tertiary Education per 1000 of Population



Source: Central Statistical Bureau of Latvia, 2005

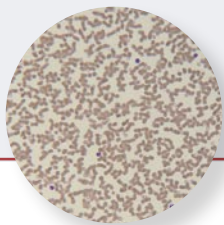
Students in the Bio/pharma Sector 1993-2004

Including disciplines such as healthcare, pharmacy, biology, chemistry, veterinary sciences, chemical technology, medical engineering, optometry



Source: Universities, business consultancy company VL BALTIC calculations, 2005





Business Infrastructure

Transport & Logistics

Latvia's transport infrastructure system has evolved to the stage where it facilitates the growing trade flows between the EU and Russian/CIS markets, and efficiently services the needs of local export/import operations:

- Free ports in Ventspils, Riga and Liepaja; container terminals in Riga and Ventspils
- Extensive and convenient road network, connecting with both European and CIS road networks, as well as with Latvia's ports
- The shortest route between EU and CIS
- Specialised high-capacity railway corridor, linking Latvian ports with Russia and the Far East
- Riga International Airport – competitive Baltic passenger hub, high-speed cargo distribution centre (DHL, UPS, TNT, Schenker, Kuehne & Nagel)



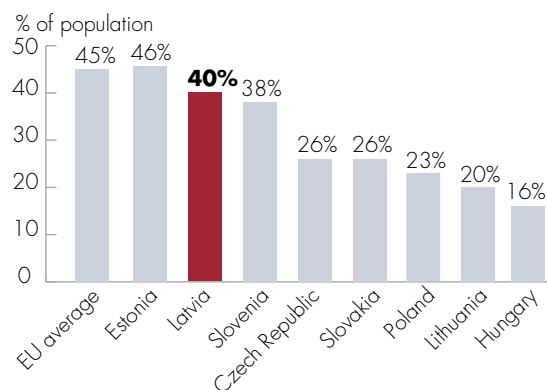
IT and Telecommunications Infrastructure

The IT&T industry in Latvia is the fastest growing sector in the economy with annual growth of 20-30% maintained over the last decade. The key competencies of the Latvian IT industry include customised IT solutions, financial applications, localisation and the implementation of large scale projects.

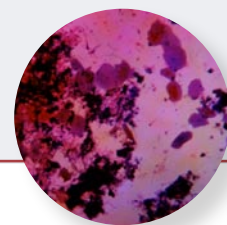
Bioinformatics service solutions are also available, including computer modelling and simulation of production management.

Latvia has an advanced telecommunications infrastructure, with coverage by digital fixed and mobile communications networks extending across almost the whole of the country. At present, 40% of population utilises the Internet which ranks Latvia second of the new EU member countries.

Internet Usage in CEEC EU Countries



Source: Internetworldstats.com, 2004



Labour Market Developments and Human Resources



CV-Online Group is the largest and most successful integrated recruitment solutions company in Central and Eastern Europe, covering Latvia, Lithuania, Estonia, Hungary, the Czech Republic, Poland, Slovakia, Romania and Russia.

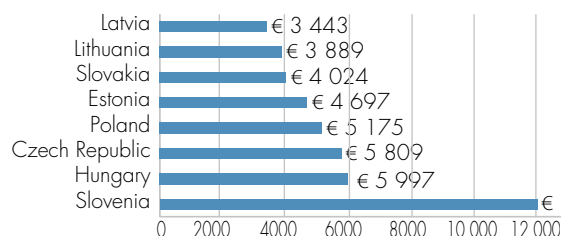
The current labour market situation in the pharmacology, biotechnology and chemistry sector is characterised by a stable number of qualified professionals and competitive human resource costs compared to other CEE countries.

Despite the transition-driven overall decline experienced more than a decade ago, transformed and leaner companies or newly established enterprises have introduced state-of-the-art technologies and processes to remain competitive. This has resulted in additional professional development opportunities for their employees, and an influx of young professionals into the sector is forecast for the next 3-5 years as the increasing numbers of technology students graduate and enter the labour market.

In terms of human resource costs, Latvia's overall salary level is among the lowest in the CEE countries. The costs for pharmaceutical and biotechnology industry professionals in Latvia are on average 2-4 times lower (depending on occupation) than those paid by companies in western Europe. An annual salary increase of 8-12% is expected over the next 2 years, however.

For companies interested in attracting workforce, the standard recruitment cycle (from project inception to contracting with employees) is 3-4 weeks for lower level professionals (qualified workers, operators) or 5-6 weeks for senior professionals (heads of research departments, chief technologists, engineers).

Average Annual Gross Salary in CEE, October 2004

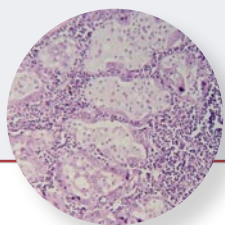


Source: CV-Online Group

Indicative Average Salaries (gross monthly), EUR, January 2005

	Latvia	Estonia	Lithuania	Czech Republic
Chemist – Head of Research Department	900-1100	1200-1500	1000-1200	1750
Chemist-Analyst	750	800	625-800	900
Assistant Analyst	475	500	500	650
Assembly-line and machine operators, chemical enterprises	450	500-600	450	600
Pharmacist – Head of Research Department	900-1100	1200-1500	1000-1300	1750
Pharmacist – analyst	750	600-800	625-800	900
Assistant Analyst	475	450-600	500	650
Assembly-line and machine operators, pharmaceutical enterprises	450	400-600	450	600

Source: CV-Online Group

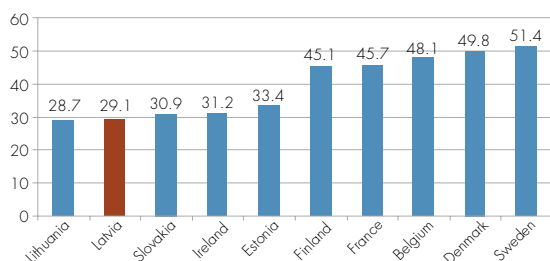


Attractive Business Environment

The foreign investor is assured of a real welcome in Latvia. The standard rate of corporate tax was reduced to 15% in January 2004 and is one of the lowest in the new EU member states.

Latvia's overall tax burden (including all taxes and social security contributions) is among the lowest in the EU. In 2003, Latvia's tax-to-GDP ratio was 29.1% (the average tax burden across all 25 EU countries was 41.5% in the same year).

Tax-to-GDP Ratios in European Countries in 2003 (%)



Source: Eurostat, 2005

To foster an active innovative process in Latvia, a National Innovation Programme for 2003-2006 was developed with the key objective of increasing the national capacity for innovation.

Latvia's government has developed state support programmes to promote new product and technology development. The programme is co-financed from EU structural funds for enterprises registered in Latvia.

Foreign investors have the same rights and obligations as local investors; there are no sectors where activities are restricted; after tax profits and investment capital may be repatriated freely; foreign companies registered in Latvia are entitled to buy land and property. There is an active dialogue between the Latvian government and the Foreign Investors' Council in Latvia (FICIL), one of the partners in improving Latvia's business climate.

There are four special economic zones (SEZs) across the country, three of which are situated in the free ports of Ventspils, Riga and Liepaja, and the fourth being an inland zone in the city of Rezekne, eastern Latvia, close to the Russian and Belarus borders.

Medicines' Legislation and IP Protection in Latvia

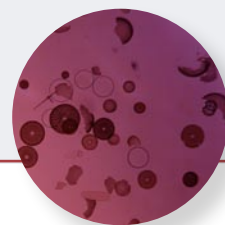
Legislation covering medicines and the protection of intellectual property in Latvia is based on laws fully harmonised with EU legislation and international agreements and conventions.

Latvia has been a member of WIPO (World Intellectual Property Organisation) since 1993 and became a member of the 1993 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) when it joined the WTO in 1999.

A patent may be granted to an inventor according to the application submitted to the Latvian Patent Board. The Latvian Patent law contains provisions relating to patentable subject matter, the subject of patent rights, the procedure for granting international patent rights under the Patent Co-operation Treaty, European patent extension to Latvia and other related legislation. It also deals with the infringement of patents, their exploitation and licensing, and the enforcement of patent rights.

Genetic research in Latvia is regulated by the Law on Human Genome Research. The law is intended to regulate the creation and function of a State Database of Human Genomes; to regulate genetic research; to ensure that genes are donated voluntarily; to ensure the confidentiality of gene donors; and to protect individuals from the misuse of genetic data and discrimination involving genetic data. The law has stimulated the modernisation of Latvia's pharmaceutical and biotechnology industries, and will attract foreign capital to research into genome and data usage.



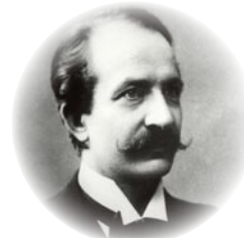


R&D Establishments

Latvia has had a strong scientific base historically. As long ago as the 19th century, Latvian chemists made significant contributions to research, recognised internationally. The most prominent scientists of that era are:



Wilhelm Ostwald (1853-1932) – Nobel Prize laureate (1909), acknowledged to be one of the founders of physical chemistry; known for his law of dilution; established the theory of catalysis.

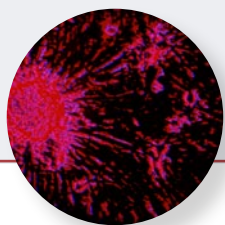


Paul Valden (1863-1957) – twice nominated for a Nobel Prize; founder of physical organic chemistry.

Latvia possesses an extensive R&D base with good co-operation between industry and the scientific and academic sectors covering a diverse range of research spheres: microbiological synthesis, virology, the synthesis of physiologically-active substances, bioorganic chemistry, molecular biology, genetics, biotechnology, biomechanics, magneto-biology and others.

The Main R&D Establishments in Latvia's Bio/pharma Sector

Name and contact information	Main field of research
Institute of Organic Synthesis Aizkraukles iela 21 Riga, LV-1006, Latvia Phone: +371 7551822 Fax: +371 78821338 E-mail: sinta@osi.lv Web: www.osi.lv	<ul style="list-style-type: none"> • Synthesis of biologically-active organic compounds • Development of microwave applications in organic synthesis; preparative techniques for the synthesis of complex molecules • Intelligent design of pharmacophore models for ligand-receptor interaction • Physical organic chemistry • Analysis of biologically-active substances and quality assurance in analytical laboratories • Pharmacology, biochemistry and cell biology • Screening of cardiovascular, CNS-active, anticancer and antibacterial compounds • Design and target-oriented synthesis of new compounds
Biomedical Research and Study Centre, University of Latvia Ratsupites iela 1 Riga, LV-1067, Latvia Phone: +371 7808003 Fax: +371 7442407 E-mail: bmc@biomed.lv Web: www.lu.lv	<ul style="list-style-type: none"> • Genome database of the Latvian population – for human genome research, ethno-genetic and health care studies and disease monitoring; genetic factors in cancer, cardio-vascular, neuro-degenerative and metabolic diseases; genetic diagnostic testing • Chimeric viral proteins as vaccine, diagnostic, and gene therapy tools; protein immunogenicity and antigenic/immunogenic presentation of epitopes; building of new highly immunogenic proteins to desired specificity as a potential new generation of vaccines and targeted carriers for gene therapy • Molecular studies of protein folding and functional degradation within the cell; signalling mechanisms and turnover of ER stress proteins • Molecular monitoring and genotyping of infectious viral diseases (HBV, HCV); molecular epidemiology studies of drug-resistant bacterial infections • Protein biotechnology based on recombinant bacterial and yeast producers



Institute of Microbiology and Biotechnology, University of Latvia

Kronvalda bulv. 4
Riga, LV-1586, Latvia
Phone: +371 7034884
Fax: +371 7034885
E-mail: lumbi@latnet.lv
Web: www.lu.lv

- Biodegradable polymeric materials for agriculture and food packaging
- Biotechnological conversion of renewable resources and use of their products
- Enzymatic conversion of sucrose

August Kirchenstein Institute of Microbiology and Virology, University of Latvia

Ratsupites iela 1,
Riga, LV-1067, Latvia
Phone: +371 7426197
Fax: +371 7428036
E-mail: vaira@latnet.lv
Web: www.micro.lv

- Elaboration of recombinant proteins in bacterial systems
- Plant physiology and microbiology
- Microbiology of oil products
- Onco-virology
- Research of immuno-modulators
- Immunology of viral infections
- Cell biotechnology and indication of viruses
- Production of preparations for veterinary medicine
- Antimicrobial and antiviral activity testing laboratory

Research Institute of Biotechnology and Veterinary Medicine SIGRA, Latvian University of Agriculture

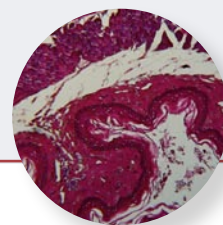
Instituta iela 1,
Sigulda, LV-2150, Latvia
Phone: +371 7976654
Fax: +371 7976655
E-mail: sigra@lis.lv
Web: www.llu.lv

- High quality, non-polluted, safe and healthy animal-origin products
- Improvement of genetic potential in domestic animals and poultry
- Selection of healthy and economically profitable breeds
- Elaboration of milk, meat and egg production; quality improvement systems
- Fodder preparation, preservation and feeding-value optimisation
- Ecological status investigation in animal husbandry.
- Healthy and diseased animals metabolism process investigation
- New treatment methods and medicine development for infectious and non-infectious diseases
- Vaccines for infectious disease and medicines from plant extracts
- Animal products in organic farming

Institute of Experimental and Clinical Medicine, University of Latvia

Ojara Vaciesa iela 4,
Riga, LV-1004, Latvia
Phone: +371 7613027
Fax: +371 7612038
E-mail: mbrazma@latnet.lv
Web: www.lu.lv

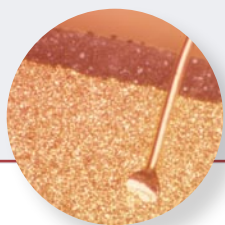
- Bone physiology
- Muscle physiology, blood circulation and working capacity
- Human physiological adaptation, prophylaxis of human physiological disadaptation, diagnostics, treatment
- Carbohydrate metabolism, obesity problems, health and food
- Cancer (tumour) cell biology – stem cell renewal problems, tumour resistance and regeneration
- Computer analysis of cancer cells in diagnosis and prognosis
- Optimisation of cancer immunotherapy



Examples of Products Developed for Manufacture at Latvian R&D Establishments

Institute of Organic Synthesis	
Type of preparation	Name of preparation
Anti-bacterial preparations	Cefalexin, Isoniaside, Nitrofurazone, Furagin, Solafur, Furazolidone, Furadonine
Anti-cancer, anti-leukaemia preparations	L-Asparaginase, Cytarabine, Ftorafur, Leakadine, Thioguanine, Cyclophosphamide, Imiphos, Thiotepa
Cardiovascular preparations	Angiotensinamide, Fenihidin, Foridone, Mildronate
Uterotropic preparations	Dezaminooxytocin, Oxytocin
Psychotropic preparations	Benperidol, Droperidol
CNS agents	Midantane (Amantadine)
Anti-virus preparations	Remantadin(e)
Analgesics	Phentanyl
Carotene stabilisers	Diludin
Veterinary helminthes preparations	Ciazon
Research Institute of Biotechnology and Veterinary Medicine SIGRA, Latvian University of Agriculture	
Phytopreparations	Camomile, Marigold, St. John's Wort salves
Vaccines	<i>Staphylococcus aureus</i> Mastitis vaccine
Serums	Serum for pork measles' treatment
August Kirchenstein Institute of Microbiology and Virology, University of Latvia	
Anti-tumour and immuno-modulating	Lariphan





Latvian Institute of Organic Synthesis

The Institute of Organic Synthesis (IOS) has developed 17 original and more than 60 re-synthesised pharmaceutical preparations, as well as methods for their production. The best known of those is *Ftorafur* (TEGAFUR), which has been already exported to Japan for more than 20 years.

The Science Citation Index shows that in 2004, 57 papers by IOS scientists were published in a variety of prestigious scientific journals, proof of the top-level ability and international recognition of IOS's R&D staff.

Presently IOS has projects being run in conjunction with 11 pharmaceutical companies. In the last 5 years, 60 patents have been filed together with business partners. Two new medicines based on these patents are already on clinical trial in the USA and Europe. Two new cardiovascular drugs were discovered by IOS and have been licensed to Latvian pharmaceutical companies as were five new technologies for production of active pharmaceutical ingredients (API).

The overall sales of medicines developed by IOS and produced by the Latvian pharmaceutical industry exceeded 25million USD in value last year. The leading preparation is cardioprotective drug *Mildronate*. It was invented in the early 1980s by the IOS and its sales value reached 20million USD last year.

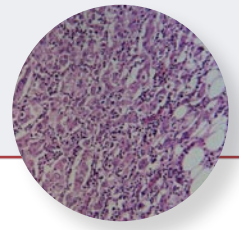
Even without possessing its own production facilities or a pilot plant, IOS is the third largest pharmaceutical company in Latvia in terms of annual turnover.

Biomedical Research and Study Centre, University of Latvia

The Biomedical Research and Study Centre (BMC) – the largest institution for molecular and biomedical research in Latvia – serves as the Latvian Genome centre for the collection, storage and analysis of genomic material from the Latvian population.

Since 1994, the BMC has participated as a partner in more than 24 international research projects within the EU's RTD Framework, NATO, Volkswagen Stiftung, KIRT and other collaborative research programmes.

As a coordinator of and key participant in a number of national research programmes in biomedicine (infectious diseases, human genome research and ageing population), BMC aims to develop and introduce molecular medicine methods (DNA tests, genotyping etc.) and a nationwide health-monitoring approach to Latvia's health care system. Extended collaboration and networking on modern protein and genome research with partner research groups in EU member states and North America states is complemented by research contracts with European biotechnology companies (*Cytos Biotechnology AG*, *Medeva Pharma Ltd.*, *Organon Teknika* et al.) and technology transfer to local SMEs. Selective and tissue-targeted drugs, recombinant vaccines and gene therapy tools, and novel DNA diagnostics are regarded as the main areas of innovative activity, and are an outcome of a more regional outlook and networking.



Potential Investment Sectors

Pharmaceuticals and Medicines

The pharmaceutical sector is the leading sector in the bio/pharma industry and has the most significant output.

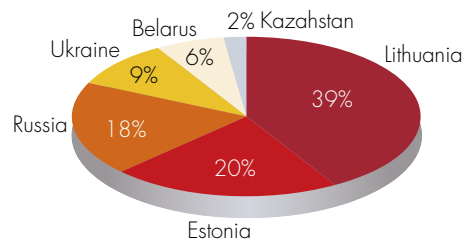
The main fields of activity include:

- manufacture of end-user products and generics, active pharmaceutical ingredients and injectables;
- outsourcing of R&D into new drugs and biologically-active substances and materials

The pharmaceutical sector is one of the main beneficiaries of the growing interaction between industry and academia, and is especially interesting because of its solid R&D basis generating new intellectual property and offering high quality testing, synthesis, research and analysis services.

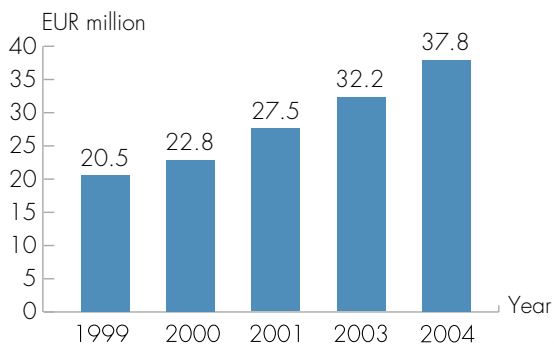
This sector has ambitions to become a global player within the region, demonstrating high productivity and value-added. The latter makes up 15% of production output – the highest indicator in Latvia's bio/pharma related sectors.

Export of Pharmaceuticals by Destination Country in 2003



Source: Central Statistical Bureau of Latvia, business consultancy company VL Baltic calculations

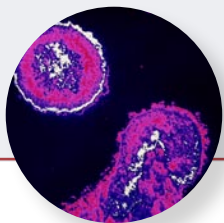
Industrial Output of Pharmaceuticals Manufacturing Sub-sector, 1999 – 2003



Source: Central Statistical Bureau of Latvia



Photo: JSC "Ghrindex"



Grindeks

Grindeks (a joint stock company) is the largest pharmaceutical company in the Baltic States. To achieve its goals, *Grindeks* is establishing the first Baltic pharmaceutical holding company with JSC *Grindeks* at the centre. At present, the group of companies comprises *Grindeks*, its subsidiary *Tallinn Pharmaceutical Plant* and Latvian medicines manufacturer *Kalceks*.

Grindeks manufactures world class quality products and provides services to the European pharmaceutical industry. It is recognised as a high technology company that has developed its scientific potential, exporting products to at least 37 countries around the world, including the other Baltic States, Europe, Japan, USA and Russia.

The company manufactures more than 100 products – tablets, capsules, injectables, syrups, ointments and active pharmaceutical ingredients. *Grindeks* is especially proud of its branded products – cardiovascular preparation *Mildronate* and anti-cancer preparation *Florafur*.

The company has established long-term co-operation in the manufacture and sales of products with several foreign pharmaceutical companies including world-renowned names like: *Johnson&Johnson* (USA), *Taiho Pharmaceuticals* (Japan) and *Merck Generics* (United Kingdom).

Grindeks was the first Latvian pharmaceutical manufacturer to acquire a Good Manufacturing Practice (GMP) Certificate. Manufacturing compliance with GMP requirements and close attention to quality assurance ensure the quality, effectiveness and safety of its medicines.

"Taiho Pharmaceutical Company's good relationship with **Grindeks**, which has already lasted more than 30 years and will continue, is the fruit of a once-in-a-life-time chance encounter."

Kobayashi Yukio,
President *Taiho Pharmaceutical Co., Ltd*
Japan

OlainFarm

OlainFarm is one of the largest chemical-pharmaceutical manufacturers in the Baltic region. The company manufactures more than 80 finished products and 40 active pharmaceutical ingredients, as well as a number of intermediates and speciality chemicals.

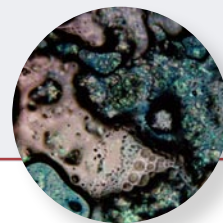
Fine organic synthesis of active ingredients is the priority direction the company has set. The highly professional skills of company's specialists and its complex manufacturing equipment facilitate the exploitation of multi-stage processes in synthesis. The company possesses great experience in working with highly dangerous chemicals.

The products manufactured at *OlainFarm* meet the requirements of the highest quality standards listed in international Pharmacopoeias in terms both of chemical and physical parameters, and in levels of microbiological purity. As a result, the company collaborates closely with multi-national corporations in the USA, Canada, South America, eastern and western Europe.

OlainFarm has acquired a Good Manufacturing Practice certificate. The company enjoys the reputation of a high quality manufacturer with its trademark being recognised for reliability and service. The constantly increasing demands on quality, safety and cost-effectiveness are key drivers of the company's operations and development. These call for flexibility, and continuous improvement across all the company's departments.



Photo: JSC "GHindex"



Recent Investment in the Sector

Syntagon

The Swedish chemistry research provider *Syntagon*, which specialises in multi-step organic synthesis and has many years of experience in the preparation and scale-up of drug candidates, recently opened a new laboratory in Latvia. The laboratory works on the synthesis of components used at research facilities within the medical industry.

"The well-developed pharmaceutical industry, excellent scientific potential, attractive production costs and the close location to Sweden are the main reasons **Syntagon** made the decision to open a scientific laboratory in Latvia"

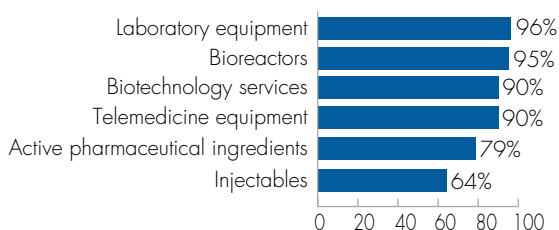
Michael Lofthagen
Head of Operations
Syntagon

Biomedical Equipment Production

The production of biomedical equipment has the highest value-added of all of Latvia's bio/pharma sectors.

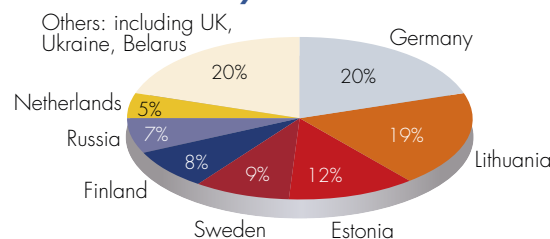
Today, modern biotechnology is considered to be a key technology of the 21st century, and therefore represents one of the driving forces for future technological expansion. Latvian biotechnology companies have demonstrated an impressive rate of development. Their success is based on Latvia's historically-strong R&D base and the high skill levels of the researchers involved.

Export Content of Selected Bio/pharma Sub-sectors in 2002



Source: business consultancy company VL Baltic calculations

Export of Medical Equipment by Destination Country in 2003



Source: Central Statistical Bureau, business consulting company VL Baltic calculations

BioSan

BioSan is the leading developer and manufacturer of scientific and laboratory equipment used in the field of sample preparation and analysis. The company has adopted the following principles in designing its products: multi-functionality – one instrument to replace several devices to save time and resources; attractive design; small footprint; ease-of-use and electrical safety.

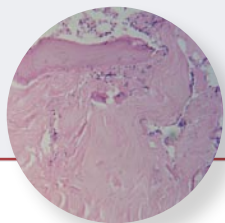
BioSan invents and produces equipment and devices for laboratories, scientific investigations and experiments and in nine years it has grown from a small family enterprise into a company exporting to 35 countries. About 95% of its production output is exported, mainly to European countries, but also to the USA, South America and south-east Asia.

Every year *BioSan* develops around 10 new devices. The company received the "Best Innovative Product in Latvia" award in 2000.

In January 2005 *BioSan* entered into a joint venture with world-leading laboratory equipment producer *Grant Instruments*.

"I am delighted to be investing in this dynamic young business. Prior to our investment we have worked with **BioSan** in launching their products to the worldwide market under the **Grant-Bio** brand and in doing so have built a strong and enduring working relationship. The combination of **BioSan's** creativity and **Grant's** established market presence will deliver real benefits to our customers. Market requirements evolve rapidly, and the combined resource will enable us to respond with the swift introduction of innovative solutions."

Ludo Chapman
Managing Director
Grant Instruments (Cambridge) Ltd



ELMI

ELMI is a leading laboratory equipment manufacturer in the Baltic States and Russia. *ELMI* has obtained ISO 9001 accreditation as well as CE certification for individual products.

The company's main line of products is microprocessor-controlled equipment for medical and biology laboratories.

The company's focus is on supplying the sector with state-of-art technology of very high quality and performance at a reasonable price. The product range is constantly updated to suit the very latest and modern techniques and customer requirements.

The contemporary business management methods used by *ELMI* enable the company to continue operating on a low cost basis and at the same time, respond rapidly to market needs. *ELMI* products are assembled in the best possible manufacturing environment under strict quality control which ensures long-term customer satisfaction.

In recent years, *ELMI* has become a solid regional development centre in biotechnology and laboratory equipment. By combining the skills and knowledge of biotechnologists, microbiologists, technical and marketing specialists *ELMI* has been able to maintain competitiveness in the cutting-edge technology sector.

In today's economic circumstances where flexibility has more significance than ever before and the introduction of new technologies must be as streamlined as possible, *ELMI*, with its sizeable technology and scientific potential can offer advantageous price-performance sets of solutions for all laboratories.

Biotechnology Services

ASLA Biotech

ASLA Biotech was founded by professional scientists with extensive international experience in microbiology, molecular biology, immunology and biochemistry. The company provides customer-oriented products and services in those fields by monitoring current trends and innovations in biotechnology and by developing its own methods.

The company provides an excellent example of scientific research in biotechnology and the transformation of this knowledge into commercial services.

Its range of customers includes: medical universities

(Karolinska Institute, Sweden), R&D organisations (NIH, U.S.A.; Max Plank Institutes, Germany; Biomedical Research & Study Centre, the University of Latvia), and research departments at hospitals (Karolinska Hospital and St. Erik's Eye Hospital, Sweden).

"We have been buying custom-made NMR samples from ASLA Biotech. Test them! They do anything from gene synthesis to cloning, protein purification and antibody preparation at affordable prices and with good speed. To our knowledge, this is the first source offering Pf1 phages on a commercial basis."

Prof. **Gottfried Otting**
Australian National University, Canberra

GenEra

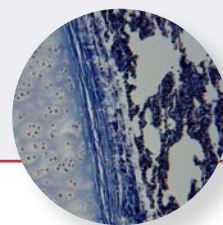
GenEra was founded in 2001 as a commercial offshoot of the Biomedical Research and Study Centre (BMC), University of Latvia. The company has a certified laboratory in the field of clinical research and its main activities include genetic testing and molecular diagnostics of hereditary diseases, DNA sequencing, genotyping, paternity and parenthood testing and pharmaco-genomic studies. DNA tests offered by *GenEra* include detection of mutations causing Haemophilia A and B, three types of thrombophilia, breast cancer and chronic myeloid leukaemia.

The company co-operates closely with the Department of Clinical Virology, Karolinska Institute, Sweden.

"Our collaboration with Latvian biotech company **GenEra** has been a delight. **GenEra** has sequenced over 100.000 bases for us and have always delivered top quality results, always on time, and at very competitive prices. We are extremely satisfied with the service provided by **GenEra** and look forward to a longstanding future collaboration"

Matti Sällberg, DDS, PhD, Professor,
Division of Clinical Virology
Karolinska Institute
Karolinska University Hospital Huddinge





Significant Latvian Bio/pharma Companies

Company	Field of activity	Web page
ASLA Biotech	Biotechnology services such as gene synthesis, custom DNA/RNA services, elaboration of proteins, polyclonal & pre-immune sera, monoclonal antibodies, stable cell lines	www.asla-biotech.com
BioSan	Manufacture of innovative laboratory instruments for sample preparation, including next-generation apparatus	www.biosan.lv
Elmi	Manufacture of microprocessor-controlled laboratory equipment for medical science and biology	www.elmi-tech.com
GenEra	Analysis and manipulation of DNA: genotyping, determination of A and B haemophilia mutations, breast/ovary risk assessment, 15 loci parenthood test, diagnostics of monogene and other diseases, pharmaco-genomic researches	www.genera.lv
Grindeks	Development, manufacture and marketing of final dosage forms of pharmaceuticals and active pharmaceutical ingredients	www.grindeks.lv
OlainFarm	Development, manufacture, marketing and distribution of a broad range of pharmaceutical products	www.olainfarm.lv

Quality of Life

Apart from being the capital of Latvia and indisputably the largest city in the three Baltic States, Riga is also Europe's art nouveau capital and one of the 'greenest' cities in the region. Entertainment options for all ages and tastes range from upmarket clubs, cinemas and casinos, to traditional theatres and exhibitions, as well as a zoo and open air folk museum for family visits.

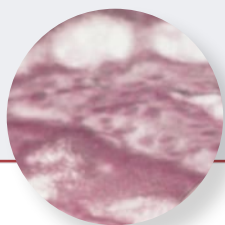
Nevertheless, Riga makes up only half of the country – the rest can offer an array of recreational options from cosy B&Bs with only a light touch of 'virtual rurality' to open-air medieval theatre or rock and pop festivals with international stars. The extensive Baltic seashore is full of traditional fishing villages welcoming hungry visitors with delicious freshly smoked fish or proffering pleasant boat trips.

For sports fans, Latvia offers excellent facilities for spectators and participants alike. There are a number of rivers and with good facilities for recreational rafting and canoeing, and for winter sports enthusiasts, several hills set up for downhill skiing. Latvia's excellent school system and the availability of high-quality medical care for reasonable costs are additional bonuses for residents.

Along with international chain hotels, Riga and the other largest cities have high quality residential property available for purchase or rent.

Apart from organisations such as various foreign chambers of commerce, informal circles of expatriates have formed in Riga, uniting people from various countries and professional backgrounds for regular cultural and recreational activities.





The objective of the Latvian Investment and Development Agency (LIDA) is to promote business development by facilitating more foreign investment, in parallel increasing the competitiveness of Latvian entrepreneurs in both domestic and foreign markets.

Having more than 10 years experience in the attraction of foreign direct investment to Latvia and promotion of foreign trade, the Agency has worked constantly to improve the business environment and provided services appropriate to the needs of business.

At the same time LIDA has been evaluating its own performance, comparing it with world best practices, and subsequently introducing new services and solutions for our customers.

The main priorities of the Latvian Investment and Development Agency are to increase the competitiveness of entrepreneurs and promote further of foreign investment.

An ability to anticipate the rapidly changing needs of businesses and markets by offering new services characterizes the Agency's own competitiveness, built on the knowledge and competencies of our experienced specialists.

LIDA has representative offices in London (UK), Hamburg (Germany), Stockholm (Sweden), Paris (France), Amsterdam (the Netherlands), Oslo (Norway), Copenhagen (Denmark), Alma-Ata (Kazakhstan), and Moscow (Russia), and an established network of representatives in Germany, Israel, Australia, USA, Ukraine and China.

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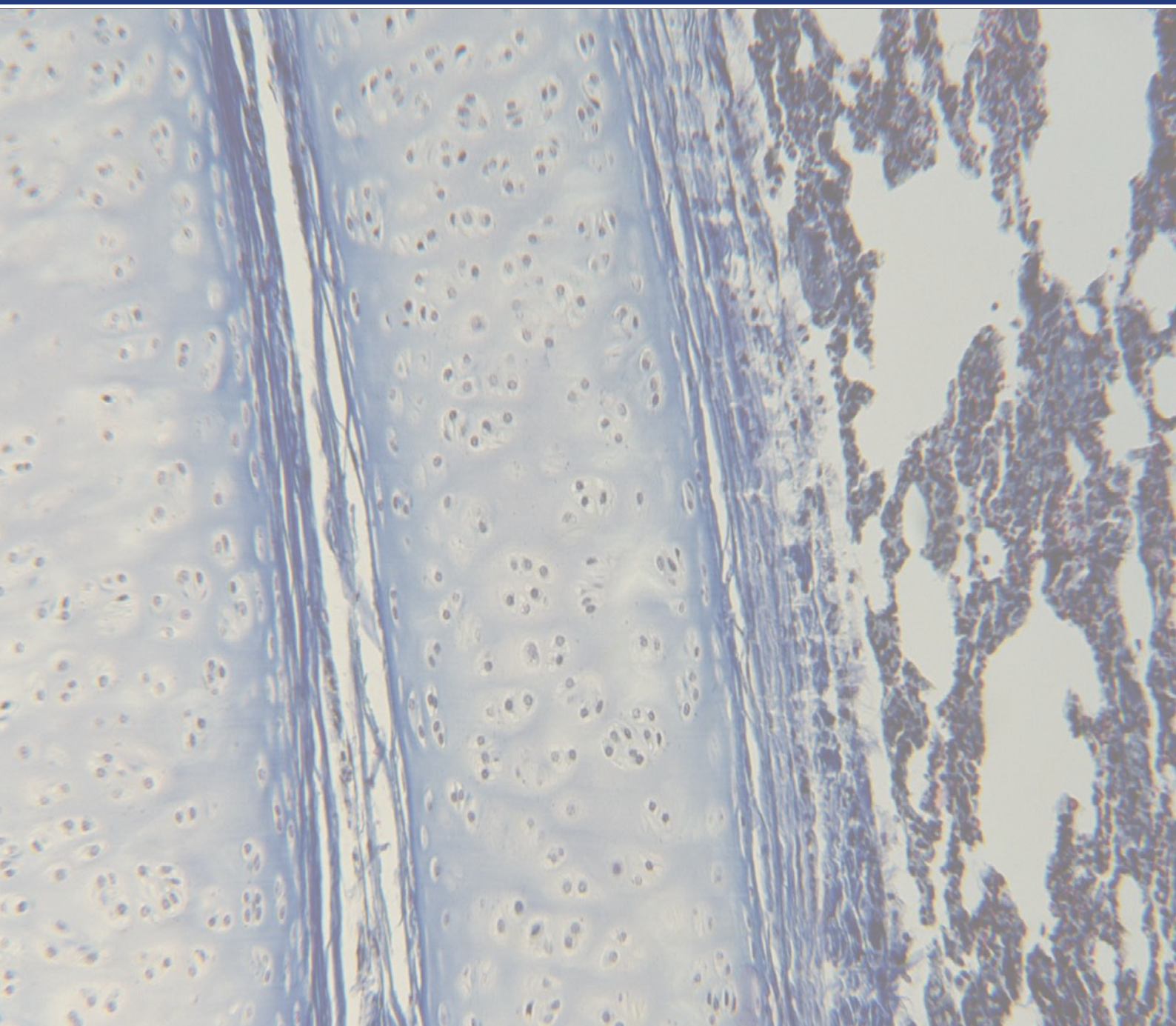
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