



**An Introduction to
eBioscience/BenderMedsystems
Assay Development**

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History of BenderMedsystems/eBioscience

- 1989** Pilot project at Boehringer Ingelheim Austria for sales of research reagents
- 1991** First products are launched under the trademark *Bender MedSystems*
- 1998** Management buy-out by Michael Schaude
Formation of *Bender MedSystems*
- 2001 - 2009** Introduction of different ELISA formats and Multiplexing technology
Establish direct sales in Austria, Germany, USA, UK
- 2009** Acquisition of Bender MedSystems GmbH by the company eBioscience
- 2010** BenderMedsystems fully integrated into eBioscience company

Ebioscience: Headquarters: San Diego, CA



San Diego, CA



Vienna, Austria

Antibody technology: Flowcytometry

eBioscience Europe – Development of Immunoassays

- Development
- Production
- Quality Control
- Packaging/Logistics
- Marketing
- Customer/Technical Service
- Sales/Distribution

eBioscience Immunoassays At-a-Glance

<i>Bead-Based Multiplexing</i>	 FlowCytomix™ Multiple Analyte Detection System
<i>Comprehensive Validated Kits</i>	 Instant ELISA®
	 High Sensitivity ELISA
	 Platinum ELISA
<i>Coat-It-Yourself Products</i>	Ready-SET-Go!®
	Capture & detection antibodies Recombinant protein standards

Product Folio

Applications

Flow Cytometry

- *Phenotyping & Quantification*
- *Function & Activation*

Immunoassays

- *ELISA*
- *ELISPOT*
- *FlowCytomix™*

Bioassays

- *Recombinant Proteins*
- *Functional Grade™ Reagents*

Immunodetection

- *Western Blot*
- *Immunoprecipitation*

Imaging & Microscopy

- *In vivo (SAIVI)*
- *In vitro (IF & IHC)*
- *Cell Tracking*

eBioscience Product Offering

- Focused on Multicolor Flow Cytometry
- Clinical and Research Applications
- Immunology, Cell Biology & Stem Cell Biology
- Ready-SET-Go!® ELISA, Instant ELISA® and FlowCytomix™
- Cytokines, Chemokines & Growth Factors
- Purified, Carrier-Free, and Azide-Free Formats
- TrueBlot® IP/Western Blot Kits and Reagents
- Cell Signaling Reagents
- Focused on Multicolor Applications
- eFluor® Nanocrystals

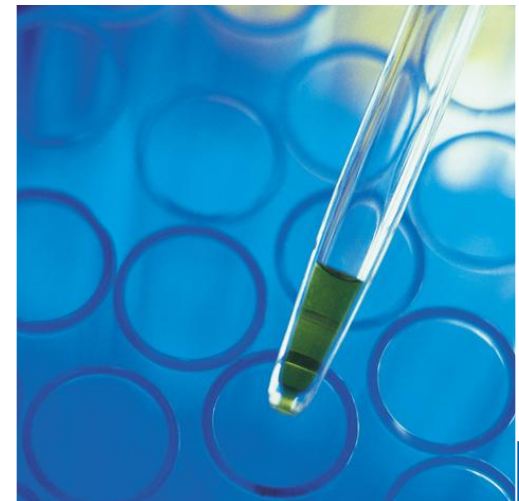
Assay Development

Feasibility Phase: Proof of Concept

- Definition of reagents to be used
- Definition of assay format
- Preliminary definition of assay characteristics

Developmental Phase:

- Establishment of assay parameters such as limit of detection (LOD), limit of quantitation (LOQ)
- Definition of working range, sensitivity
- Evaluation of matrix effects, sample performance
- Assessment of reproducibility



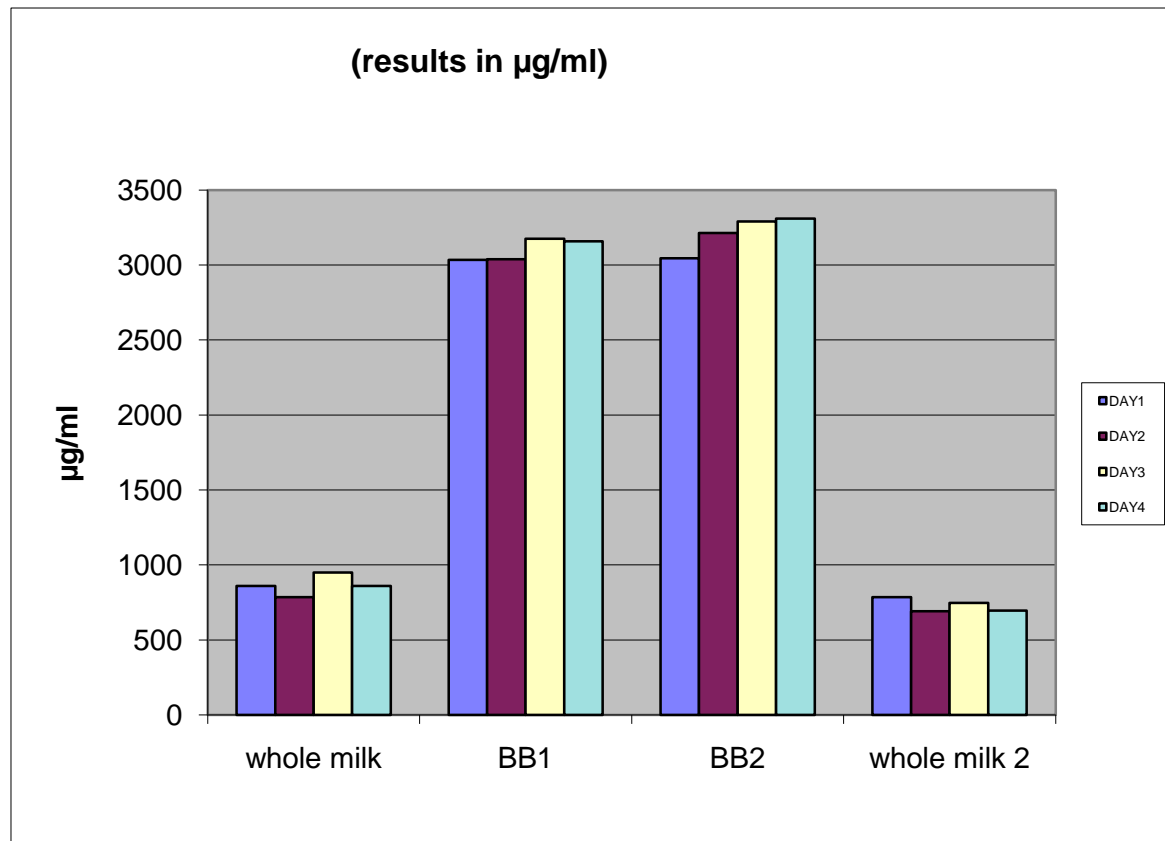
Assay Development

- **Assay Validation:**
 - Assessment of reagent stability (robustness)
 - Measurement of inter- and intra-assay reproducibility , specificity
 - Sample screening - system suitability (depends on the assay)



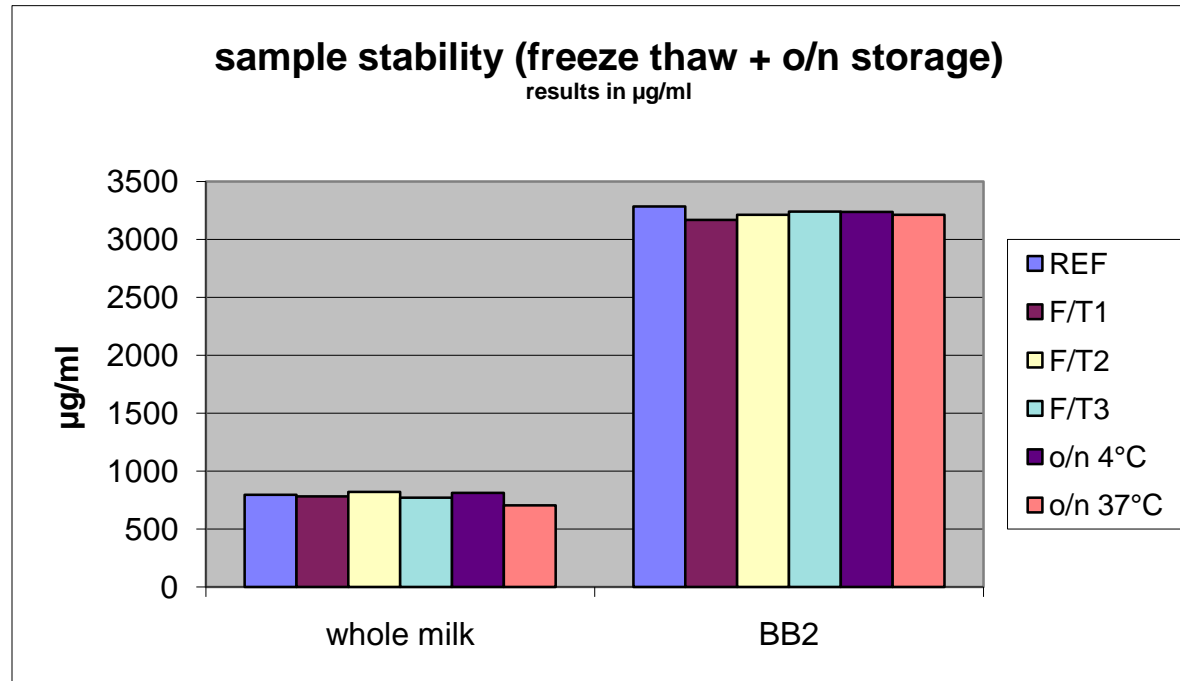
Validation Bovine kappa-casein B ELISA

- Reproducibility



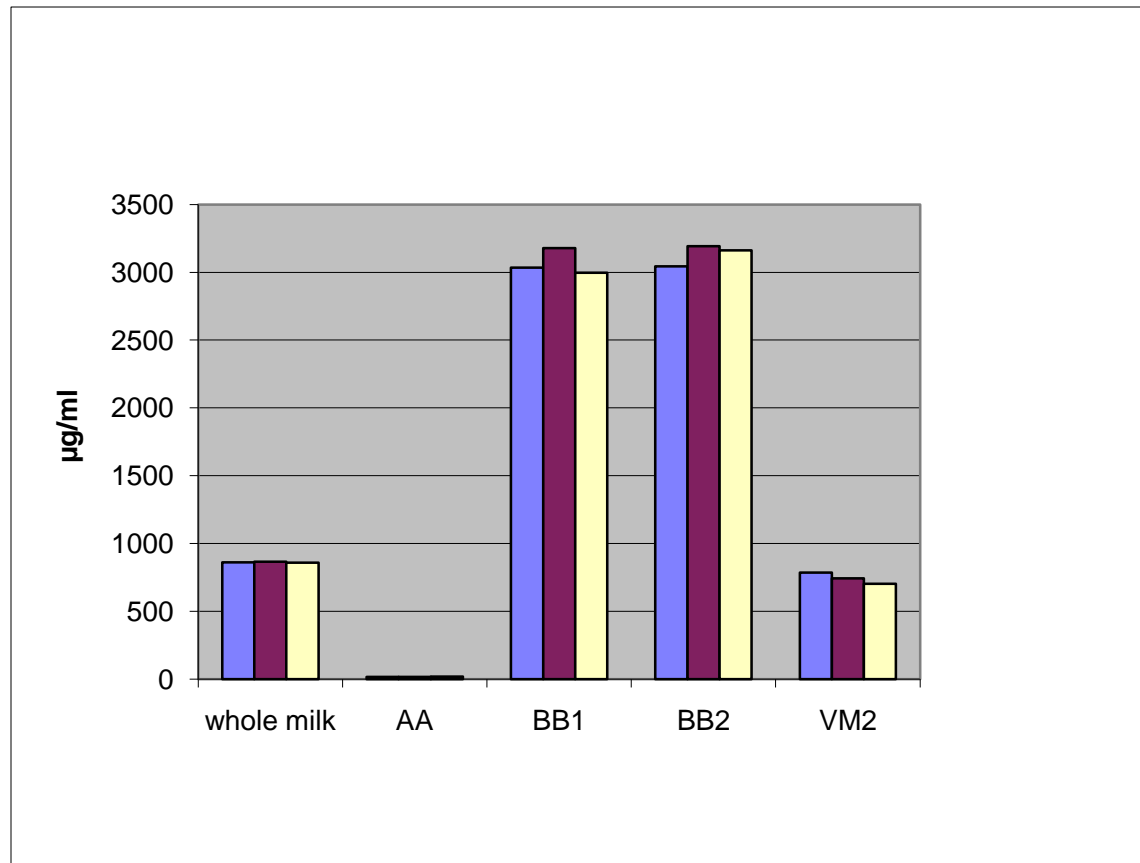
Validation Bovine kappa-casein B ELISA

- Sample stability



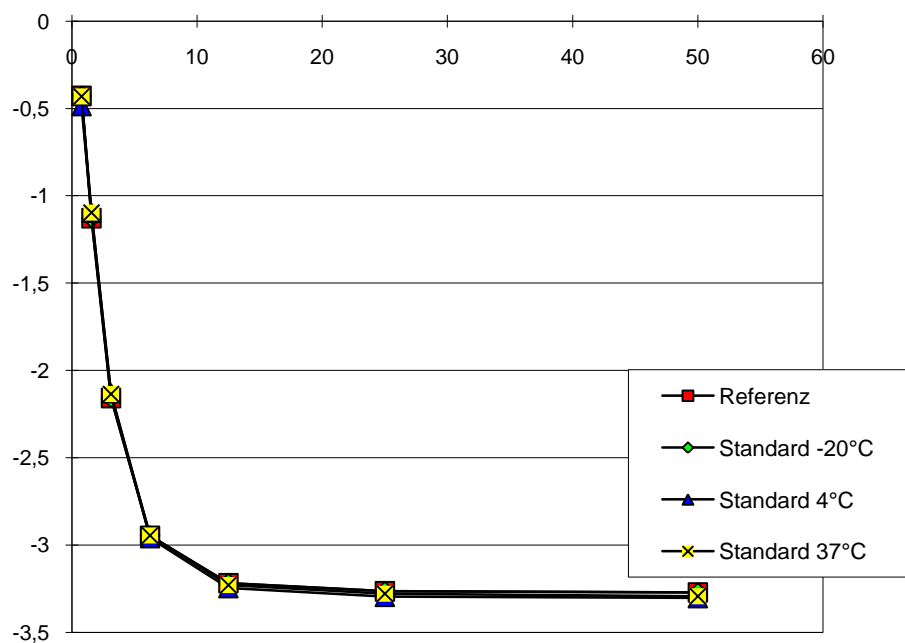
Validation Bovine kappa-casein B ELISA

- Different samples

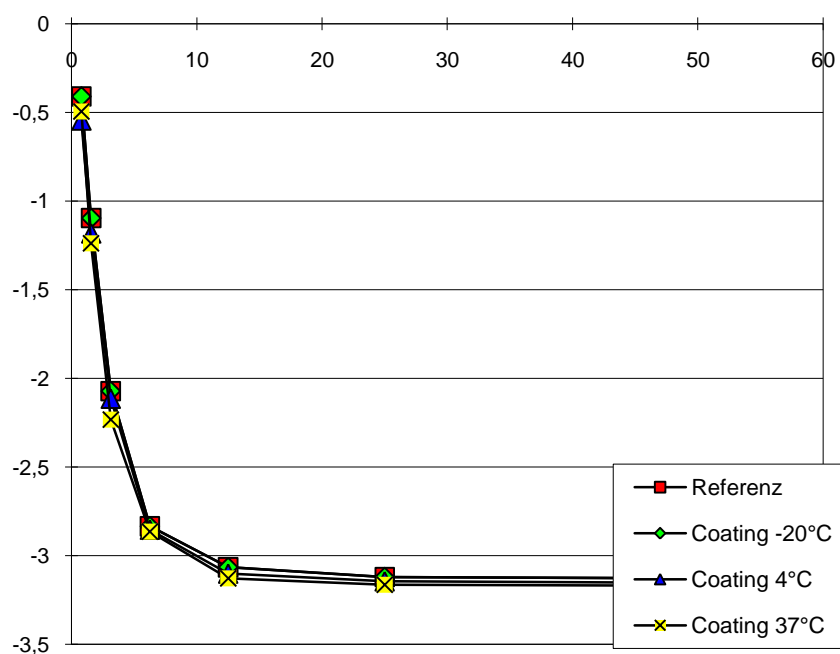


Stability Bovine kappa-casein B ELISA

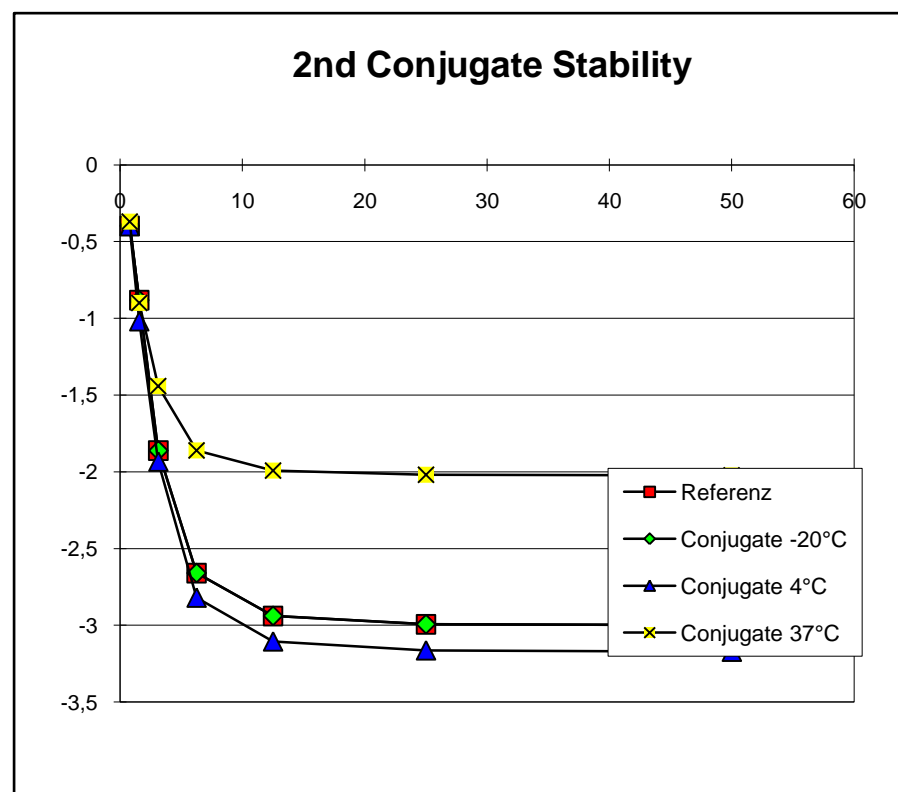
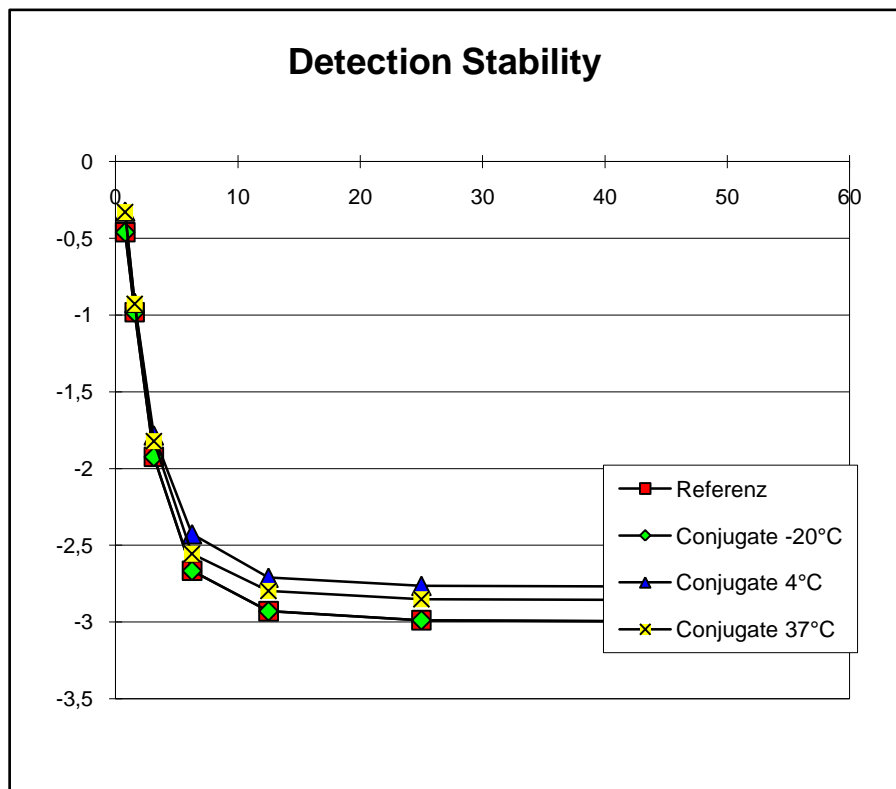
Standard Stability



Coating Stability



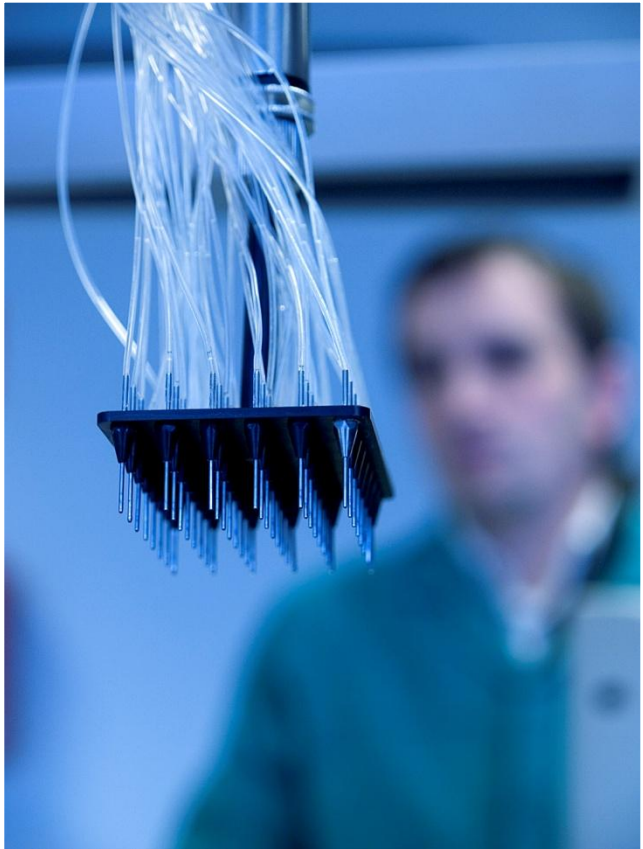
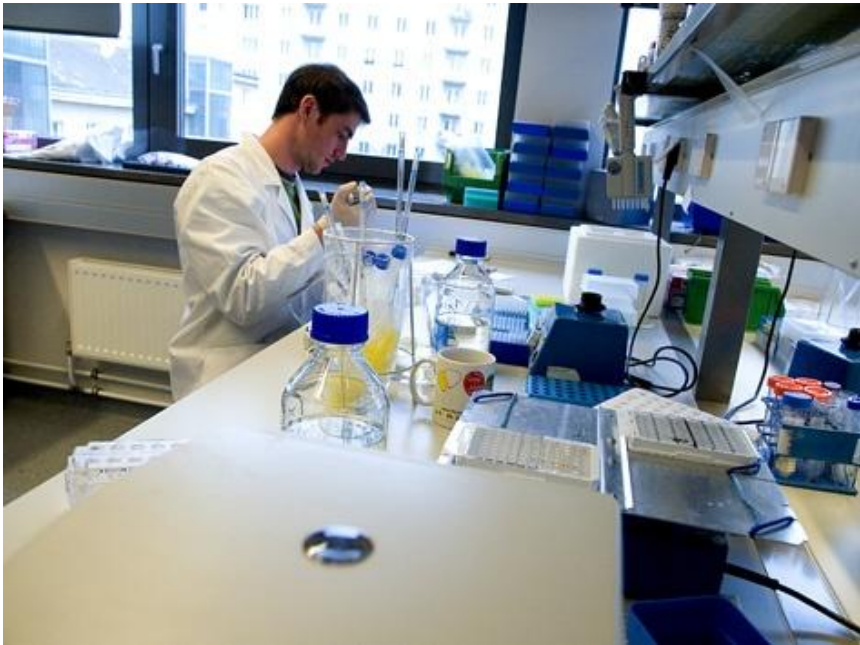
Stability Bovine kappa-casein B ELISA



Quality control

- Each new production lot is tested
- Plate certificate
 - Proof of homogeneity of the plate
 - Proof of homogeneity of standard
- Certificate test
 - OD values
 - Intra-assay reproducibility
 - Inter-assay reproducibility
 - Sensitivity





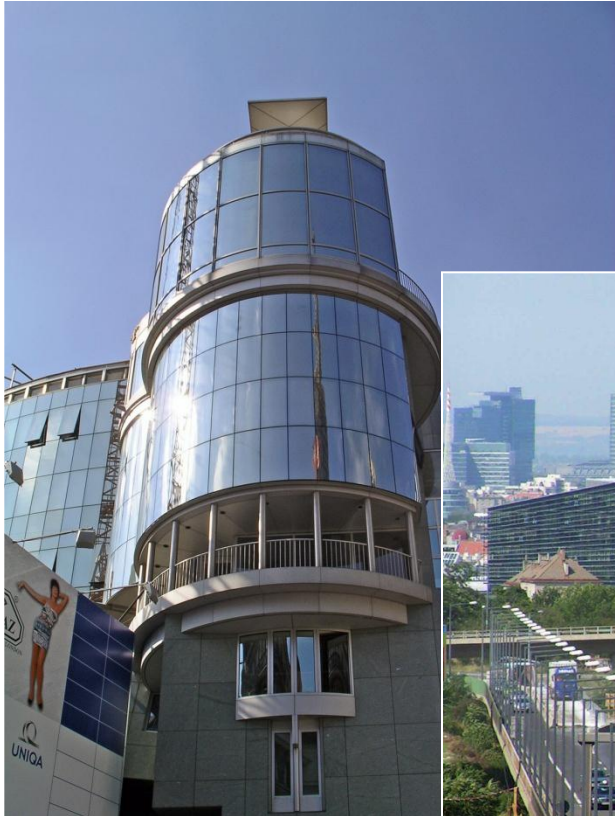




Vienna



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Thank you