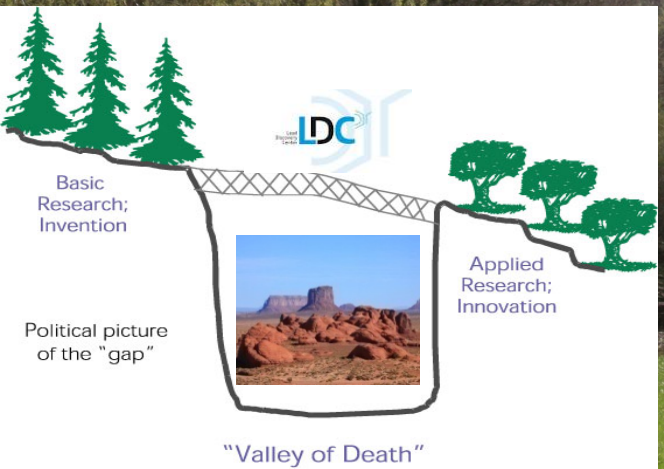
Max-Planck's

Lead Discovery Center GmbH

LDC – a (Proven) Model for Bridging Academia to "Pharmaceutical Industry"



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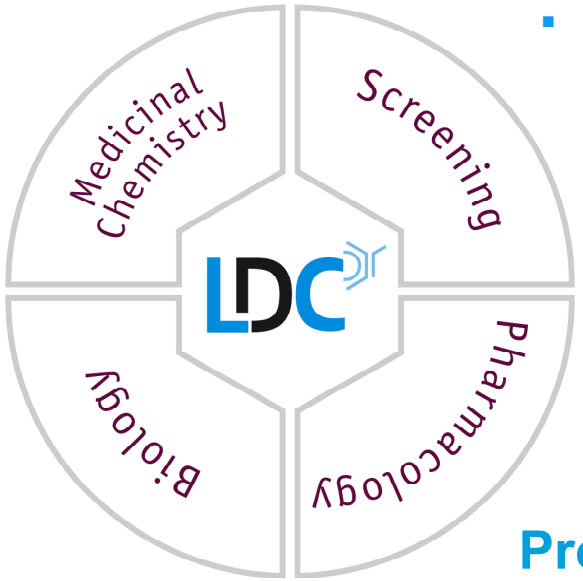
Corporate Overview

Setup

- founded in 04-2008 by Max-Planck-Innovation
  - framework contract with Max-Planck-Society
    - Broad academic network, e.g. collaboration with Helmholtz



Company profile

- 60 employees, 85% of PhD-level from ex-Pharma/Biotech
- >25 drug discovery projects – broad range of indications
- Industry Partners:

Product profile

- innovative **small molecule** Lead series with PoC in animal models
- strict Lead criteria according to Industry standards

target hypothesis
pathologic mechanism

high quality
drug discovery incubation

(pre-)clincal development,
regulatory work
and drug marketing by Pharma

Lead Discovery Center LDC

Academia | **Industry**

target | hit | lead | candidate | IND

Target ID	Target validation	Assay development	Screening	H2L	LO	*Development*

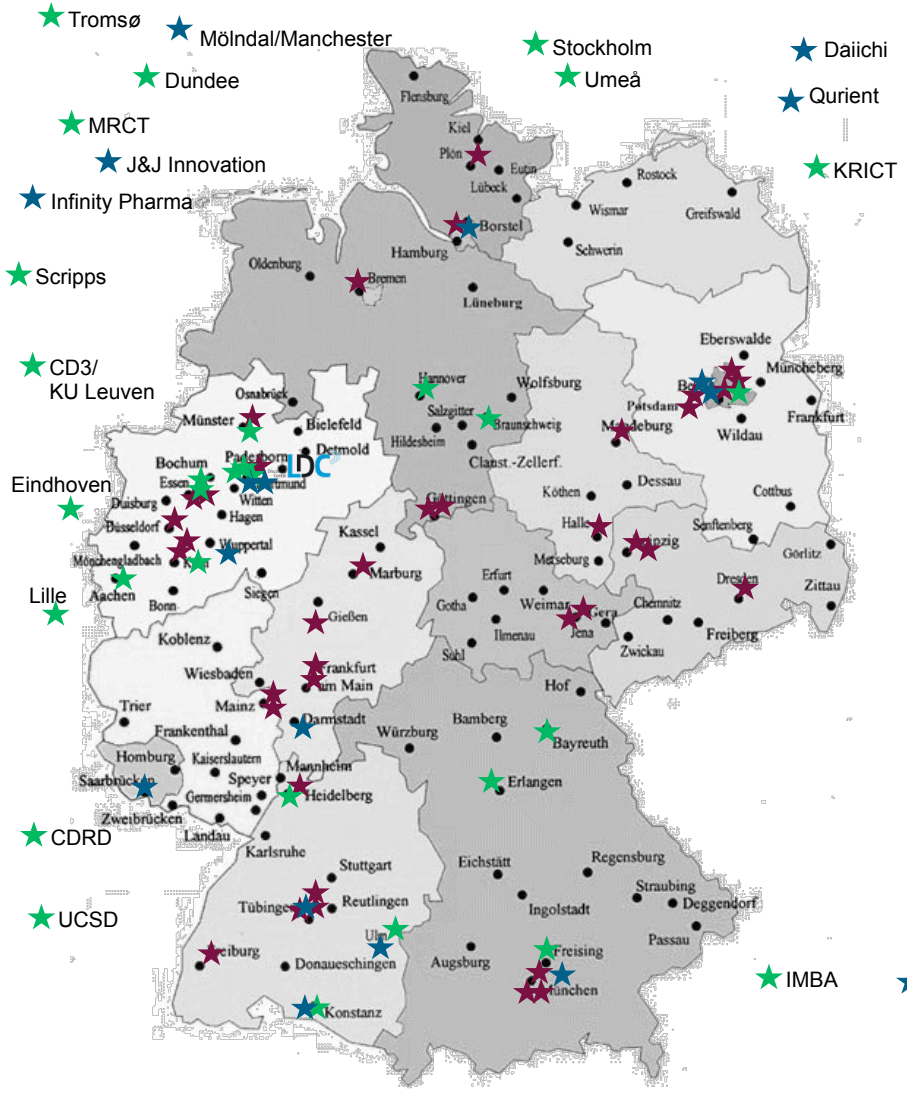
Year „0“

Year „~15“
& xyz m€

Preclinical PoC

- ***is a translational incubator for academic project ideas***
- ***closely collaborates with academic PIs and/or industry***
- ***requires external funding for project incubation (e.g. by Max Planck)***
- ***is „wet“ tech transfer – but not a CRO***
- ***offers exclusive licensing and/or co-development models for partnering***
- ***shared risk – shared success***

Partners & Academic Network



MAX-PLANCK-GESELLSCHAFT

TARGET

target identification

- 82 institutes
  ca. 17.000 employees, 5.500 scientists
- >15.000 publications *p.a.*; 32 nobel laureates
- additional 5.000 young & guest scientists
- ~40 institutes with life science (biomedical) oriented research programs (BMS and CPT)
- central tech transfer unit:

Max-Planck-Innovation

3.400 inventions
2.000 contracts
100 spin-offs

★ Max-Planck Institute
★ Academic Collaboration Partner
★ Pharma/Biotech Network

Cheminformatics at LDC

- Compound acquisition, focused libraries
- Analysis of screening data: Filtering, Clustering
- Acquisition of Hit analogs: in silico screening, 2D and 3D
- Support Hit optimization:

    Structure and pharmacophore based modelling

    ADME/T: Identify metabolic hot spots, toxicophores …

- Support ELF: Library optimization, reagent selection, enumeration, calculation of properties of library.

Cheminformatics at LDC

Access to commercial packages:

-Modelling: Schrödinger

-Public and in house HTS, ADME/T and in vivo data.

-Data analysis: Knime, R, ChemAxon

LDC – Competencies

Lead Discovery Center LDC

Medicinal Chemistry

•Computer-aided rational drug design, cheminformatics

•Design of focused compound libraries

•Hit-to-lead identification, based on biochemical or cellular active compounds

•Identification of active compounds

•Lead optimization

Assay Development & Screening

•In house compound collection and data base: LDC collection, Comas, HDC

•Development of biochemical and cellular assays for new targets

•Biochemical and cellular primary screening (mid-scale)

Biology

•Cellular pharmacology

•Evaluation of efficacy and toxicity

•Mode of Action and phenotypical studies

•Identification of biomarkers

Pharmacology

•Early ADME profiling

•*In vivo* PK/PD studies and coordination of *in-vivo* efficacy studies

•Early toxicity studies

•Metabolite studies