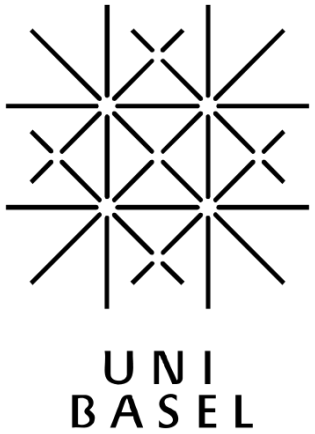
Nagoya Protocol on Access and Benefit Sharing – Implications and Consequences for Research in Pharmaceutical Biology



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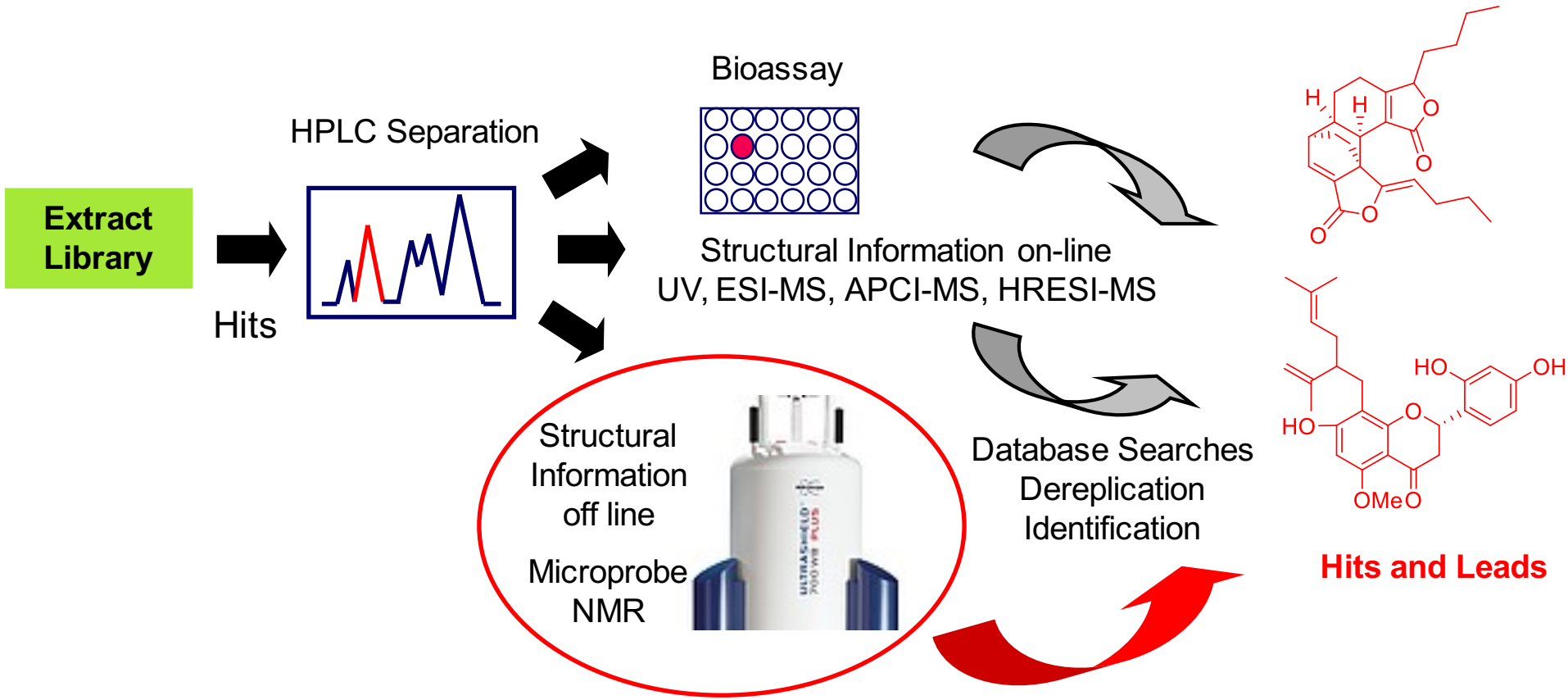
Research in Pharmaceutical Biology at UNIBAS

- Natural products-based lead discovery
  - Tropical parasitic diseases
  - Unmet therapeutic needs
  - Emerging targets
- Biopharmaceutical evaluation of natural products and NP analogues
- Validation of herbal medicines (phytopharmaceuticals)

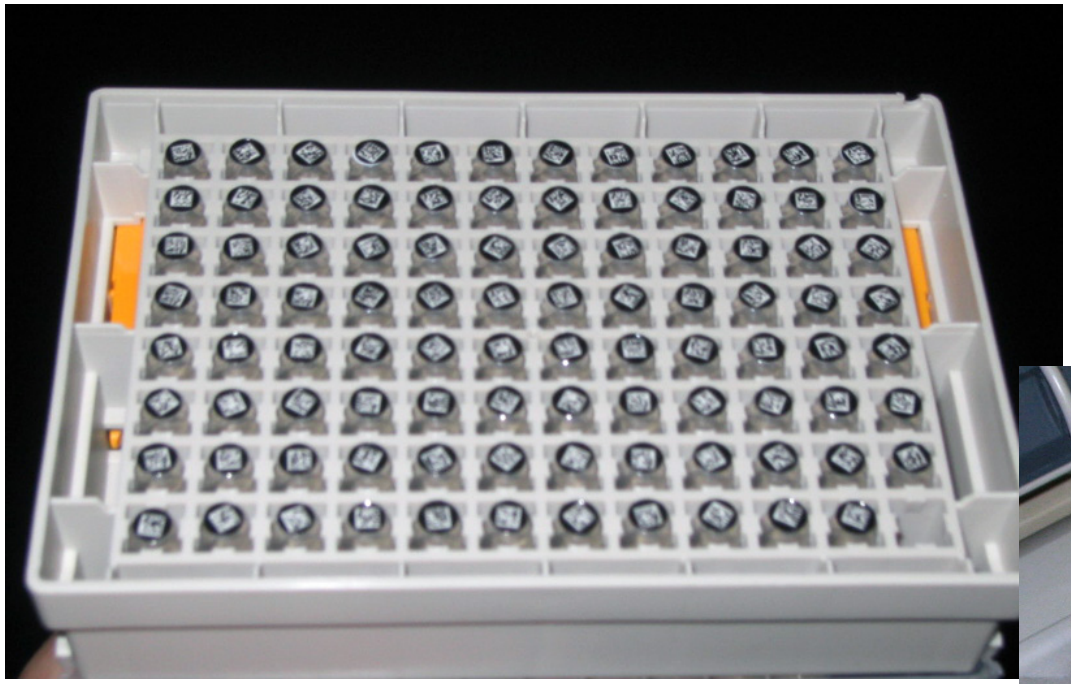
Natural Product Based Lead Discovery

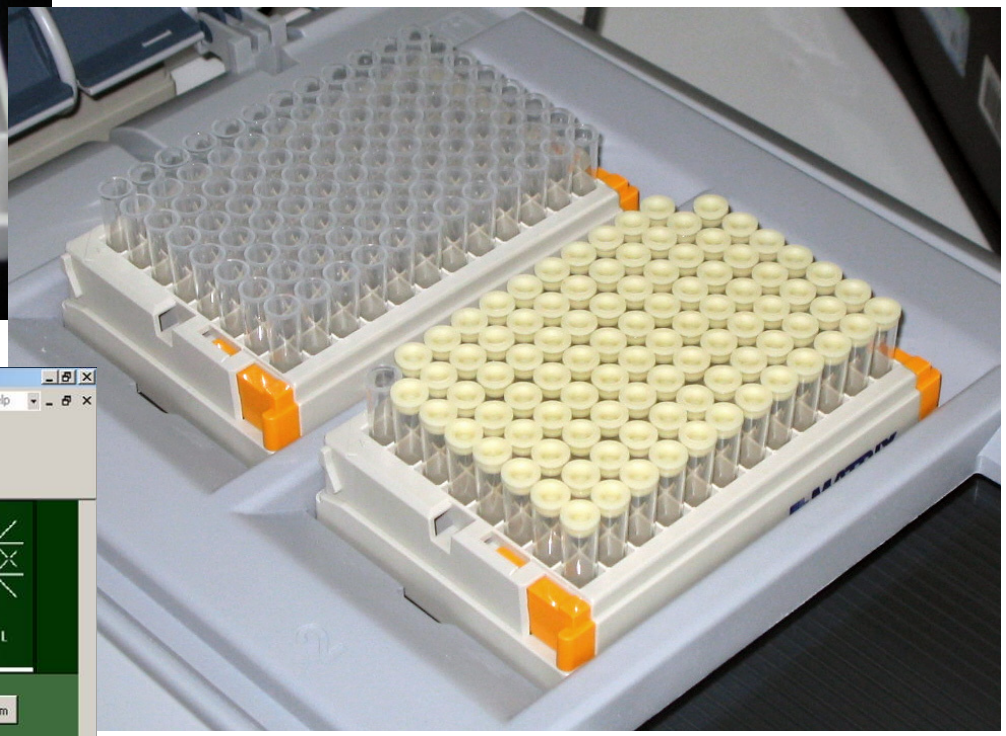


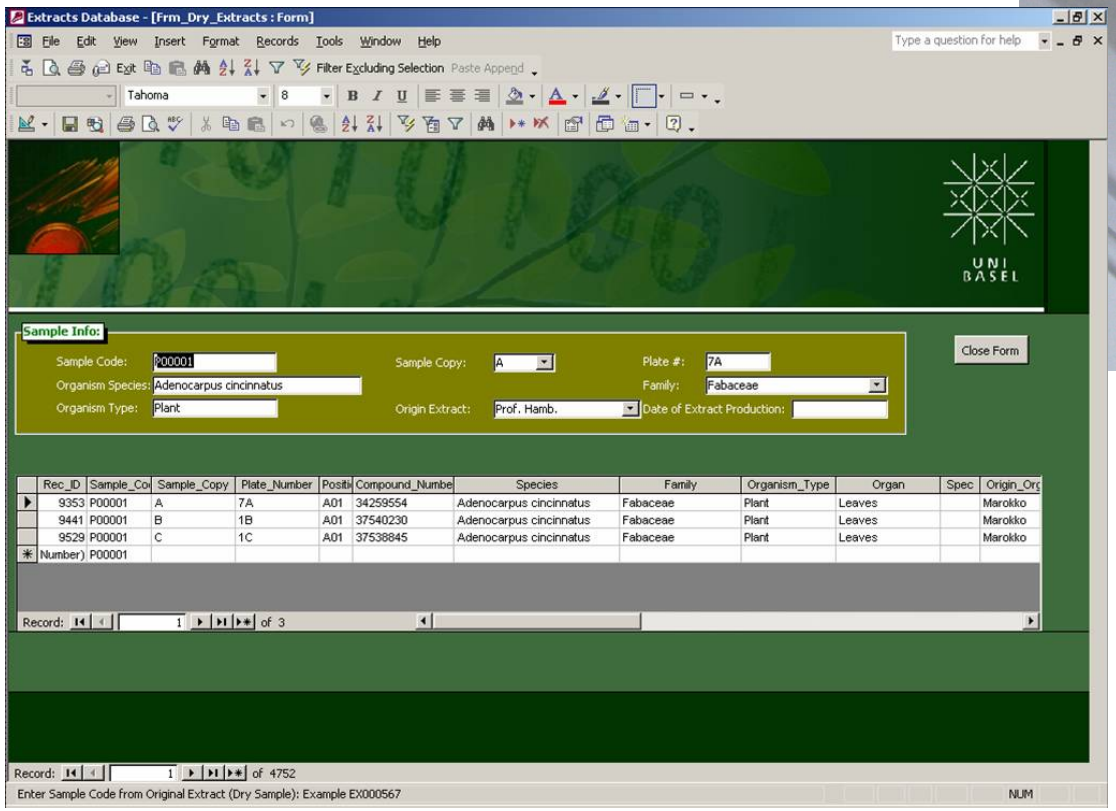
mg-amounts of extracts, µg-amounts of pure compound, 96-well footprint, parallel processing, automation

Generically applicable approach to natural products

Extract Library







In-house library consists currently of >3500 plant and fungal extracts formatted as DMSO stock solutions (10 mg/ml) in 96-well Matrix® racks

Why Working with Extract Libraries?

- Screening of extracts, and discovery of promising bioactive compounds is a numbers game

- Maximizes the potential of each sample, since they can be exposed to the broadest possible range of biological targets over time

- Miniaturizes and accelerates the discovery process

- Minimizes the need for transfer of bulk plant material when collaborating with international partners

    - Extraction for library is performed in source country
    - Small amounts (ca. 20 g) of plant samples are shipped, and extraction for library is being performed in Basel
      Bulk material remains in source country

How do we collaborate ?

- Collaboration only with partners in countries with an established national legislation
- Collaboration only with trusted partners in these countries
- Sample transfer only with MTAs; additionally under collaborative agreements signed at higher level if required
- Our main partners are in Panama, South Africa, Indonesia
- Benefits for partners in source countries
    - Joint research applications
    - Opportunities for training of students in our lab
    - Know-how transfer
    - Joint publications

Practical consequences of the Nagoya Protocol for our research and for international collaborations

- Possible new collaborations have to be carefully pondered: Is it worth the effort?

- Collaboration with colleagues in certain countries has become difficult or impossible

- Assisting colleagues in developing countries has become difficult or sometimes impossible

- Typical requests we receive:
    - Can you accept for some months a PhD student, so that he can perform analytical/phytochemical work on plant X in your lab? We do not have the required infrastructure.
    - Can we send you extracts X, Y and Z for HPLC-PDA-MS analysis, etc?

Some practical questions and problems

- Traditional knowledge
  - What to do if goverment and local communities have conflicting interests?
  - The issue of ownership: who „owns“ trad. knowledge?
  - Who represents communities?

- Patenting
  - Commercial sample, eg. Piper nigrum. Declaration of source. Country of origin unknown?

- How to deal with timelines in a project?
  - PIC, MTA, MAT: takes how long?

- And finally, a wish from an academic researcher
  - Swiss organisation that provides practical support to researchers in the elaboration of required documents

thank you
danke
謝謝
ngiyabonga
teşekkür ederim
gracias
merci
obrigado
bedankt
dziękuję
go raibh maith agat
mochchakkeram
sukriya
kop khun krap
terima kasih
grazie
arigatô
dakujem
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tapadh leat
спасибо
Баярлалаа
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