

Organ specific biomarker research in-vivo



HEALTH

Institute for Biomedicine and Health Sciences

Why do we need organ specific biomarker research in-vivo?

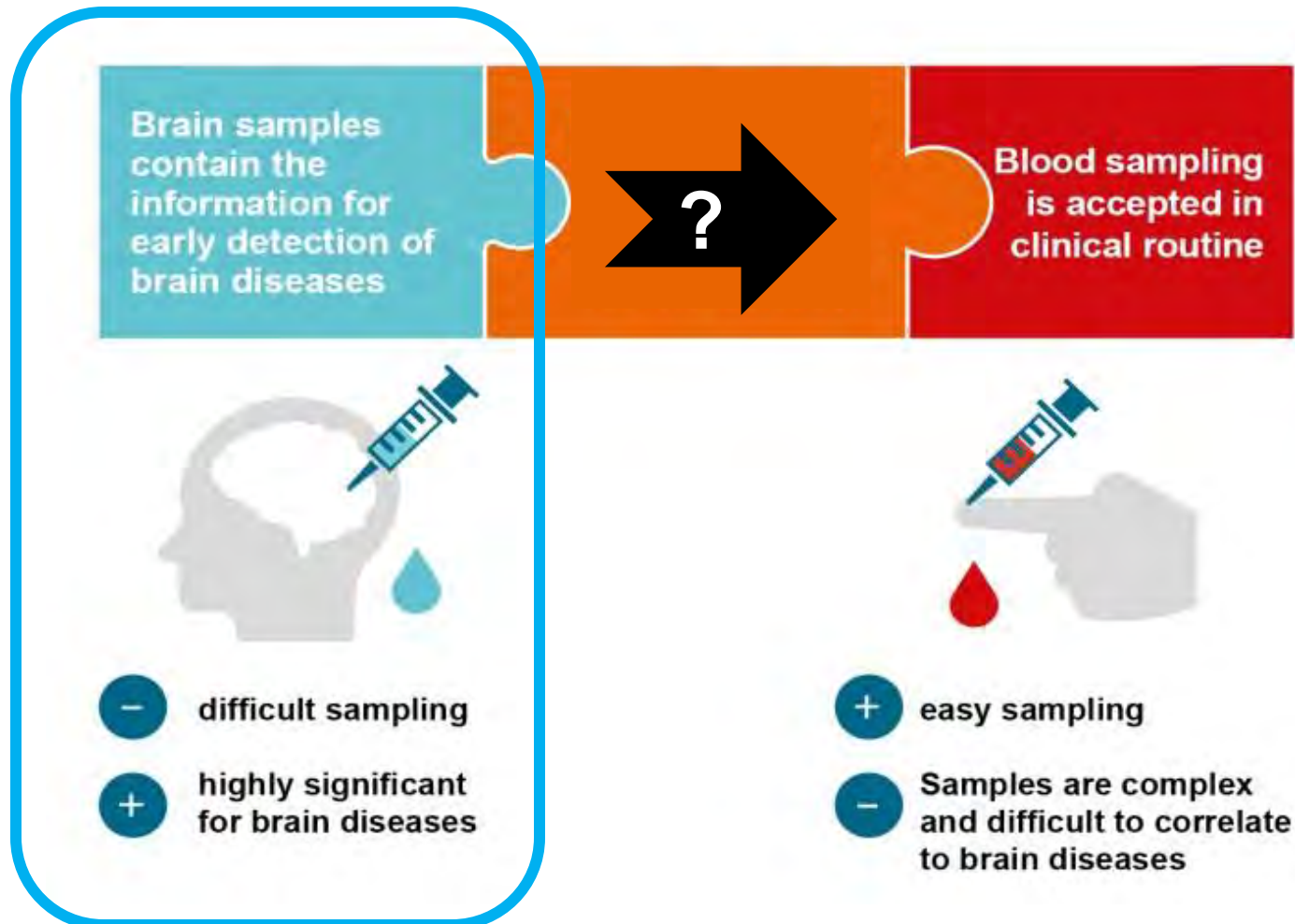
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- Disease pathology is (often) organ specific
 - *Biomarker concentration is high*
 - *Blood is a sum-parameter of all organs*

- In-vivo monitoring allows detection of early onset disease biomarkers
 - *Allows early diagnosis and treatment before irreversible damage happens*

Example: Brain biomarkers in blood samples

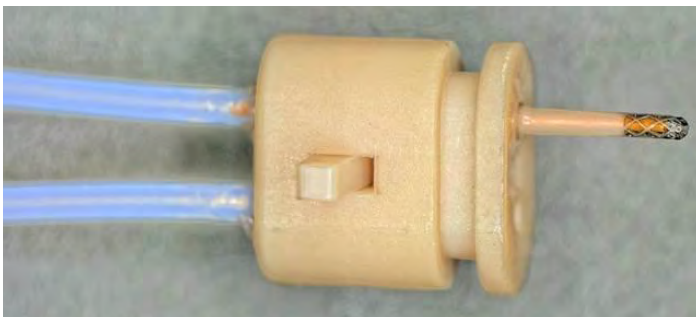
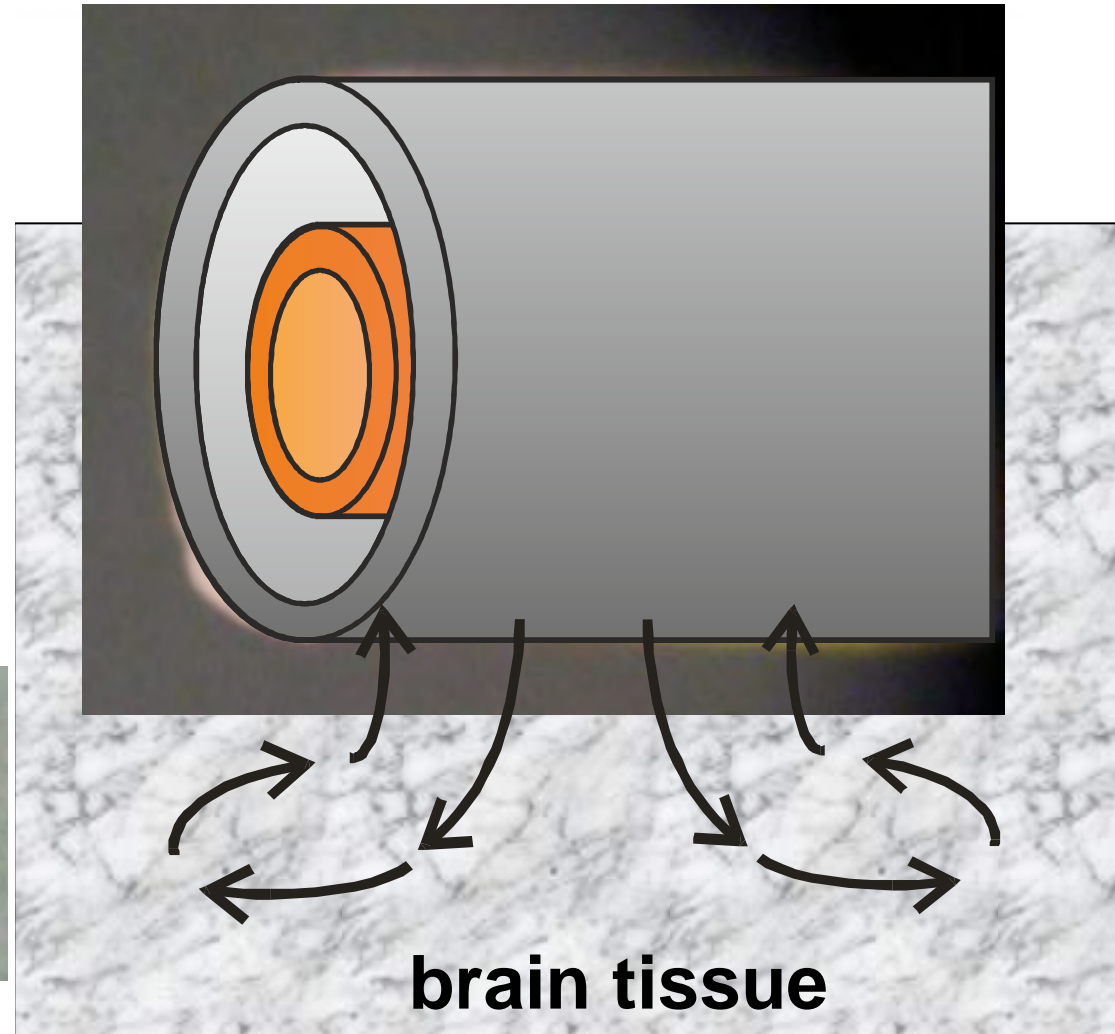
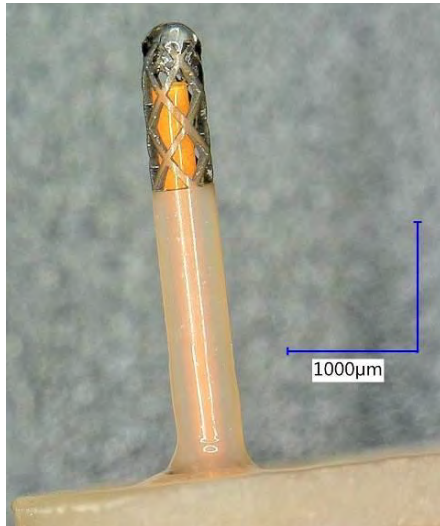
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Open flow microperfusion - OFM

cerebral OFM

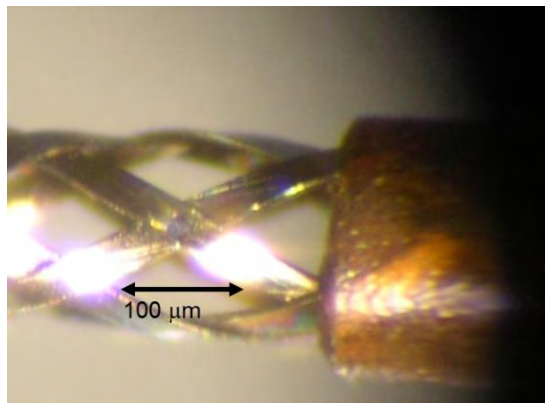
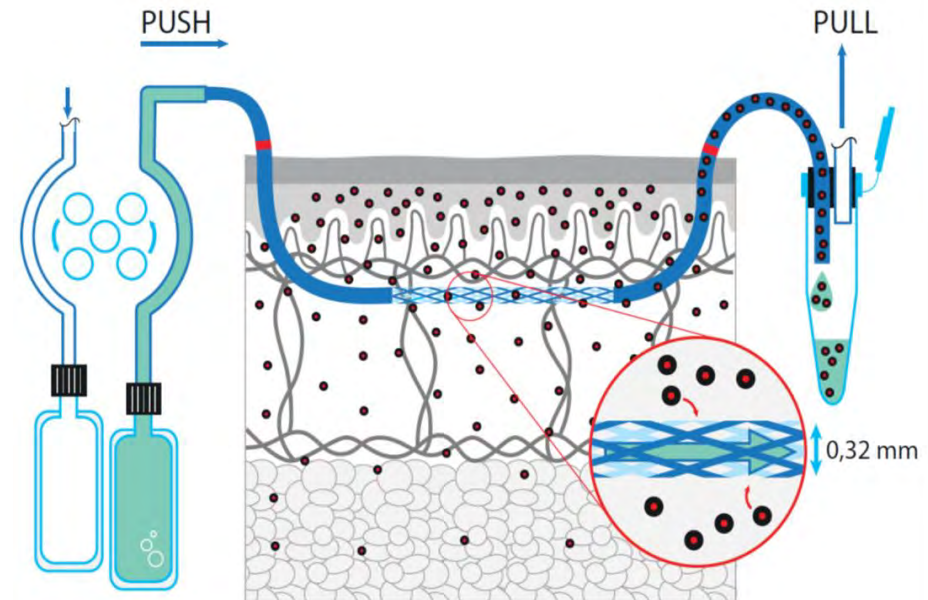
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Open flow microperfusion - OFM

adipose and dermal OFM

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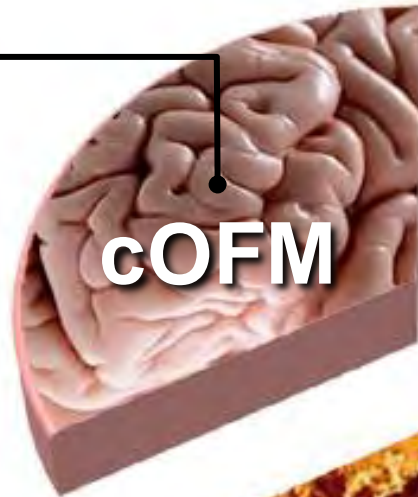


CE-certified for clinical use

Open Flow Microperfusion *applications*

Neurology

- neurodegenerative diseases
- brain
- BBB transport characterization



Dermatology

- psoriasis, acne, cancer,...
- skin



Endocrinology

- endocrine diseases, diabetes,...
- muscle and fat-tissue

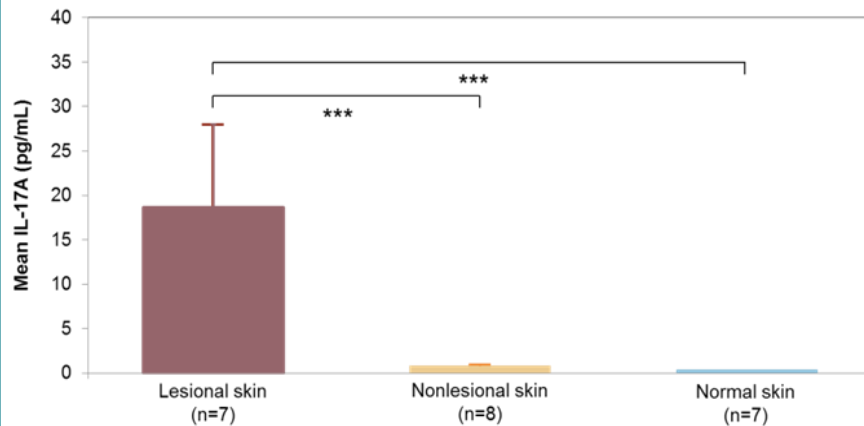


...to access interstitial fluid in peripheral tissues.

Applied study – Psoriasis *Biomarker for Psoriasis in the skin*

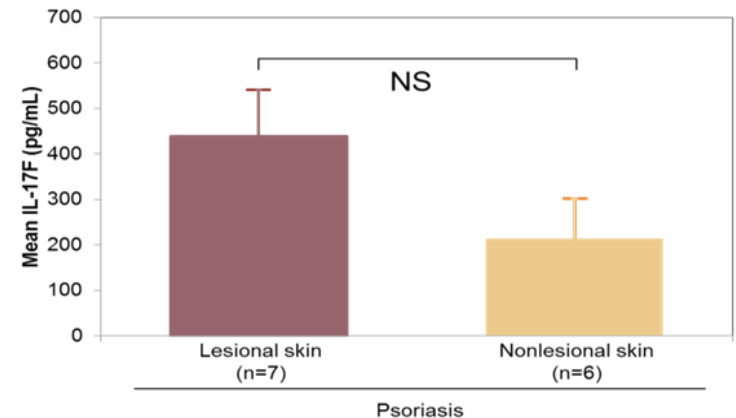
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Baseline IL-17A in Skin of Psoriasis Subjects and Healthy Volunteers (Mean + SE)



*One value >67 pg/mL for lesional skin not shown in figure for clarity.
 *** $P < 0.0001$, lesional vs. non-lesional skin and lesional vs. healthy skin.
 Calculated absolute values take into account mean relative recovery rate of the reference molecule (sinistrin).
 The data below LLOQ were imputed by $\frac{1}{2}$ LLOQ.

Baseline IL-17F in Skin of Psoriasis Subjects (Mean + SE)



Calculated absolute values take into account mean relative recovery rate of the reference molecule (sinistrin).
 The data below LLOQ were imputed by $\frac{1}{2}$ LLOQ.

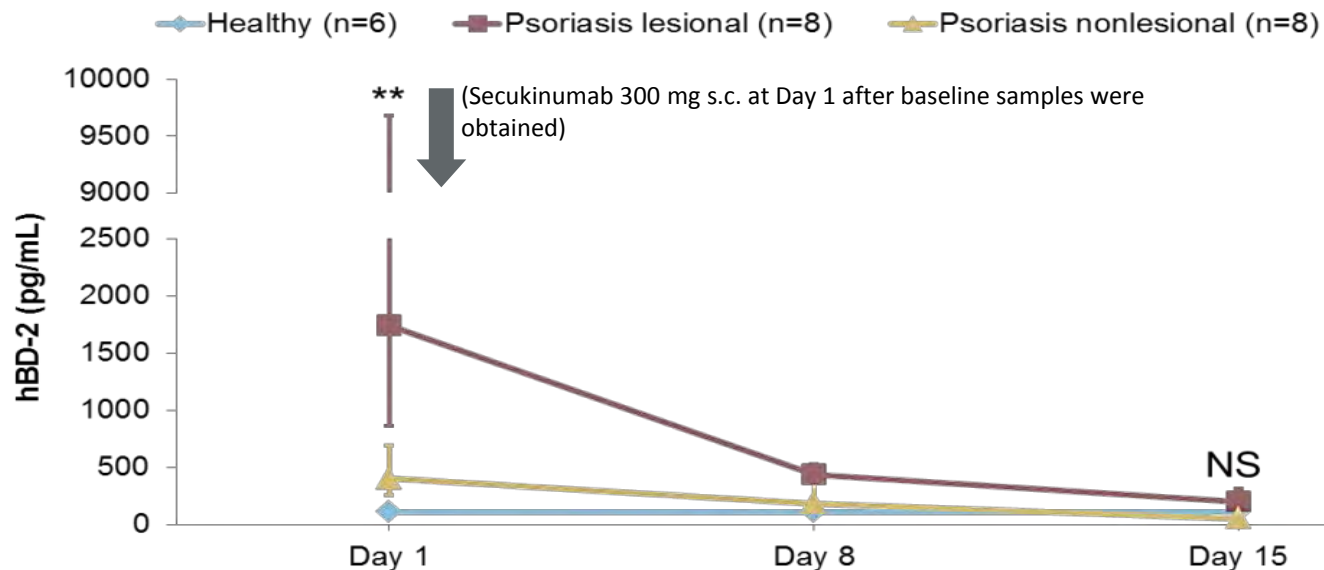
- IL-17A, but not IL-17F, is significantly higher in psoriatic lesional skin compared with non-lesional skin or skin of healthy volunteers

Applied study – Psoriasis

Downstream marker for IL-17A

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Skin β -Defensin-2 in Psoriasis Subjects and Healthy Volunteers



- β -Defensin-2 protein levels are elevated in psoriasis lesional skin and serum and decrease rapidly in response to secukinumab treatment

Contact

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