# 3D imaging of drug effects in the brain

Assessment of pharmacologically induced changes in brain regional activity patterns can guide interpretation of CNS-mediated drug mechanisms. Gubra offers light sheet fluorescence microscopy-based whole-brain visualization and quantitation of activation patterns using c-Fos expression, an immediate early gene protein product, as a proxy for neuronal activation.

## Identify brain regions affected by drug treatment

### 3D imaging of the intact mouse brain

Light-sheet fluorescence microscopy allows for 3D imaging, mapping and quantification of c-Fos labelled neurons at single cell resolution throughout the entire, intact mouse brain.

### Whole-brain anatomical mapping

Automated detection and anatomical registration of c-Fos positive cells is performed using a standard mouse brain atlas. c-Fos fluorescence signals are evaluated in >250 individual brain regions.

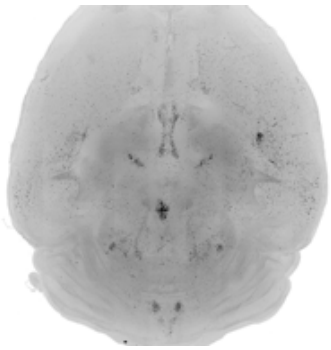
### Unbiased whole-brain quantitative histology

Deep learning computational analysis is applied for brain-wide quantitation of c-Fos expression (fluorescence signal intensity) and automated, absolute quantitation of c-Fos positive cells.

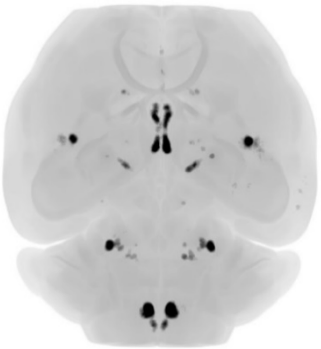
### Screening of drug effects in the brain

Quantitative whole-brain 3D mapping of c-Fos expression provides optimal anatomical resolution of neural excitability patterns following drug treatment.

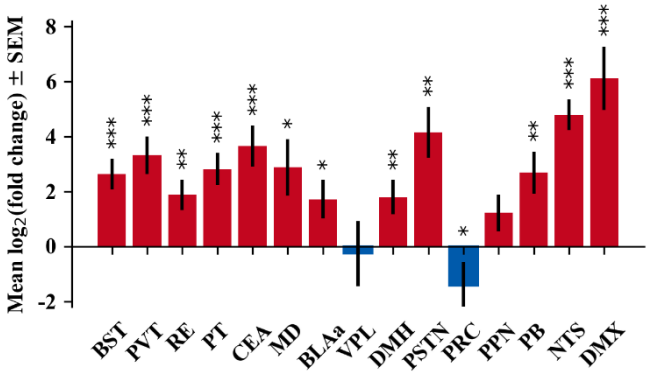
Send us the brains – our 3D c-Fos imaging platform is applicable to any relevant in vivo model in the mouse.



Brain-wide c-Fos expression following acute drug administration in the mouse.



Digital map of brain regional significant changes in c-Fos expression compared to vehicle controls.




Automated quantification of drug-induced changes in c-Fos expression compared to vehicle control levels.

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