

# arrangement of local and defined application of drugs on dendrites of cultured hippocampal neurons

using **Kleindiek 2MM3A-LS  
Micromanipulator-System**

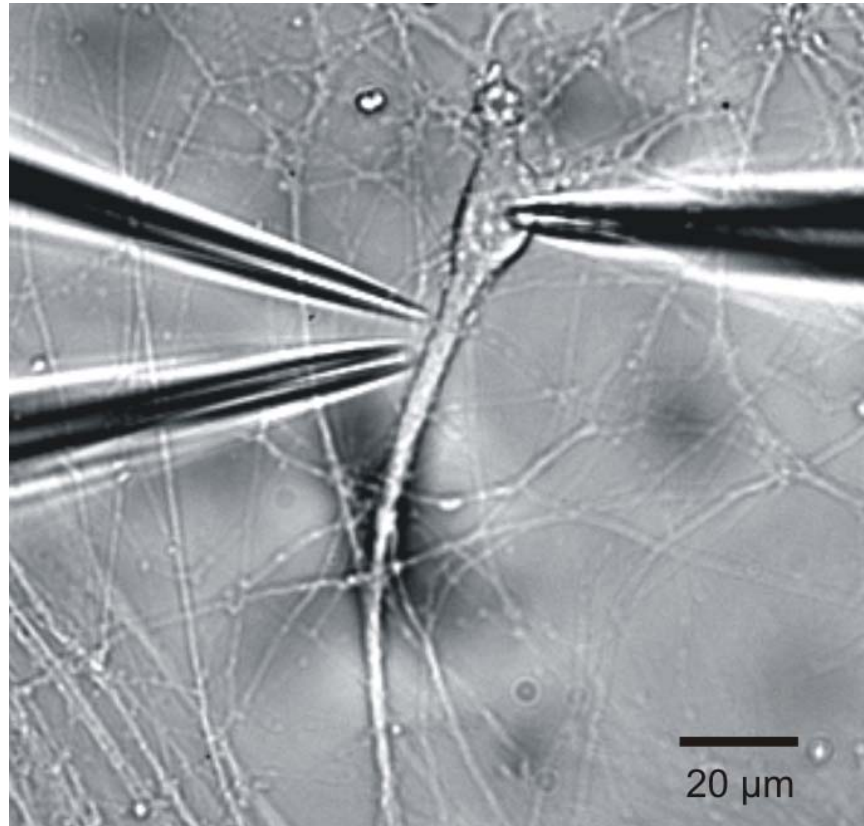
using **standard manipulator**

**ionophoretic application of  
Glutamate**

stimulus duration 2 ms  
stimulus amplitude = -1-2 nA  
distance to neurite: < 1  $\mu$ m

**pressure application of  
drugs**

distance to neurite:  
1-2  $\mu$ m



patch clamp electrode

bath perfusion

20  $\mu$ m

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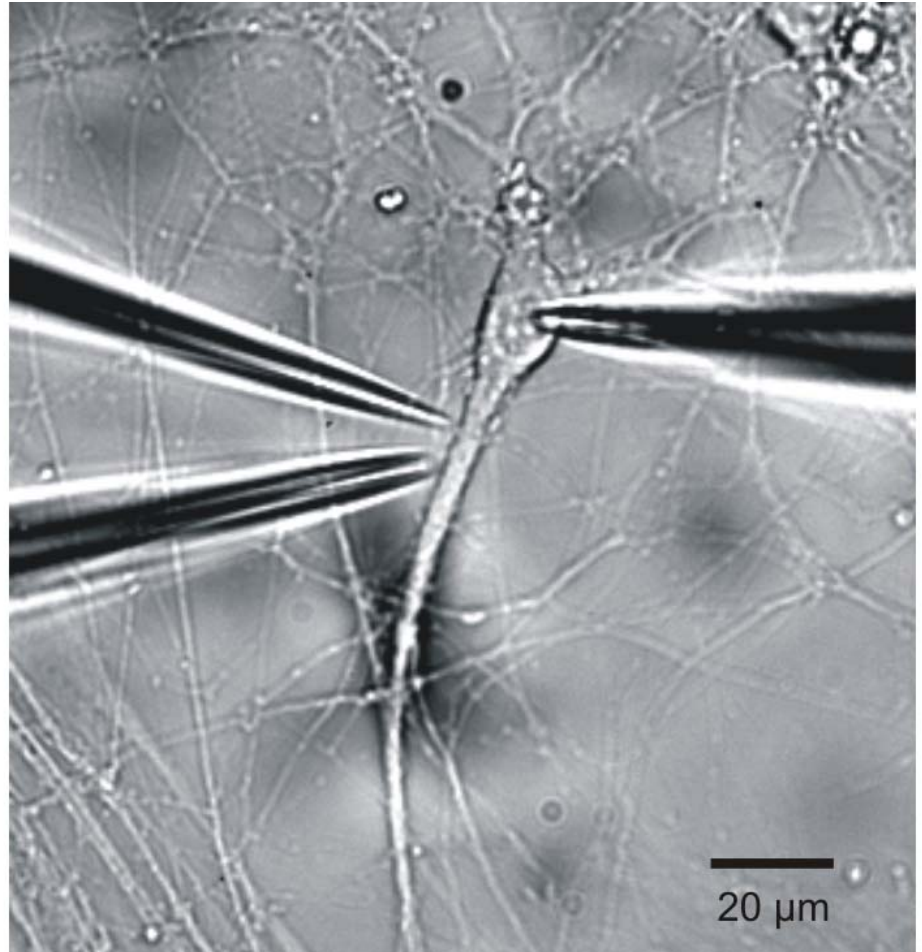
## **Kleindiek 2MM3A-LS Micromanipulator-System**

-shock mount holding of a defined electrode position

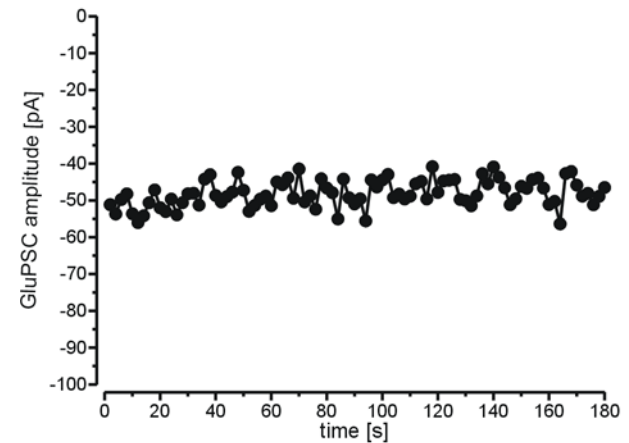
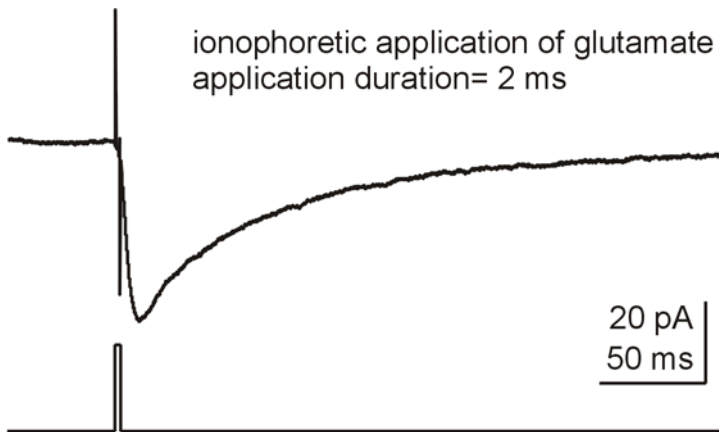
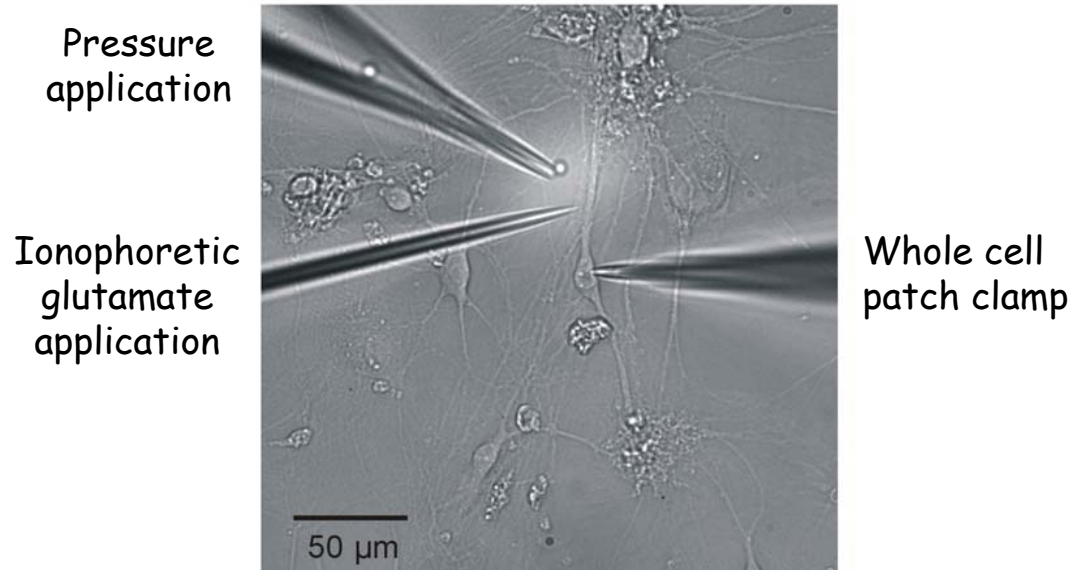
-no drift or vibrations

-stepless moving mode allows a very close positioning of the electrodes to the neurons

-easy change of the electrode position along the dendrite



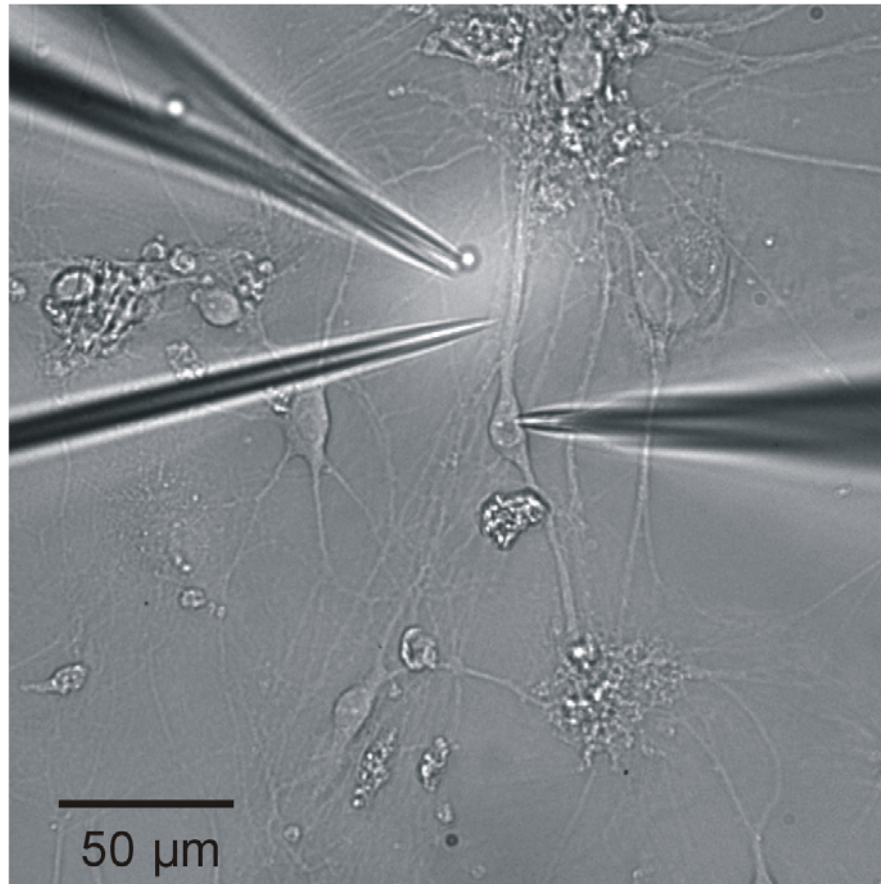
# Ionophoretic application of glutamate induces an EPSC like inward current



profile of the pressure application system using lucifer yellow containing solution demonstrates a localised drug application

Pressure application

Ionophoretic glutamate application



Whole cell patch clamp