

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

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

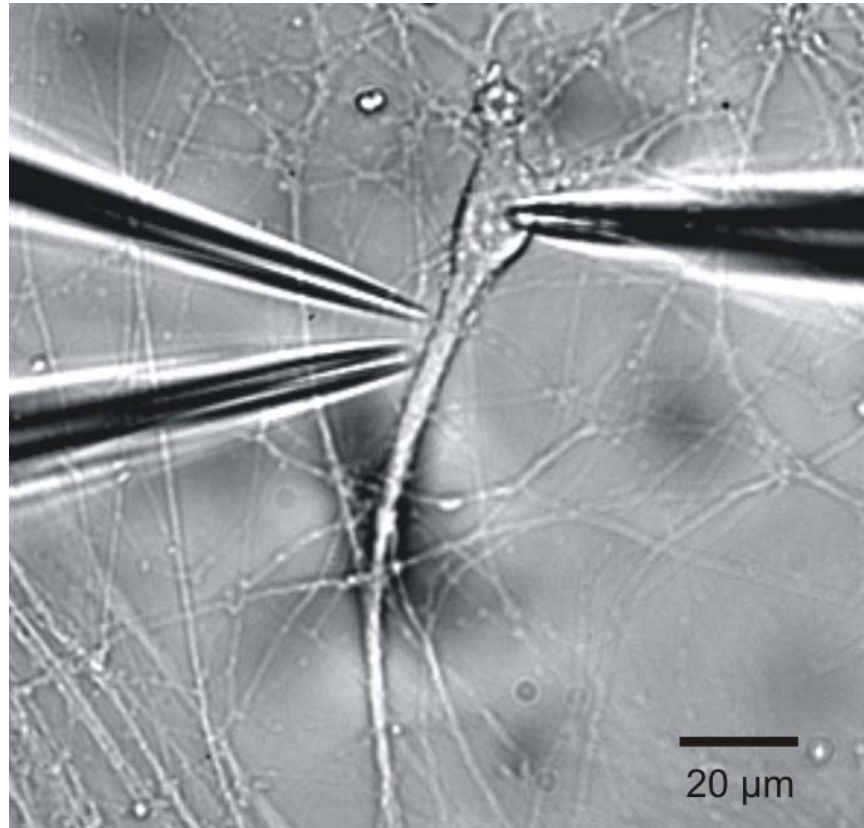
using **standard manipulator**

**ionophoretic application of
Glutamate**

stimulus duration 2 ms
stimulus amplitude = -1-2 nA
distance to neurite: < 1 μ m

**pressure application of
drugs**

distance to neurite:
1-2 μ m



patch clamp electrode

bath perfusion

20 μ m

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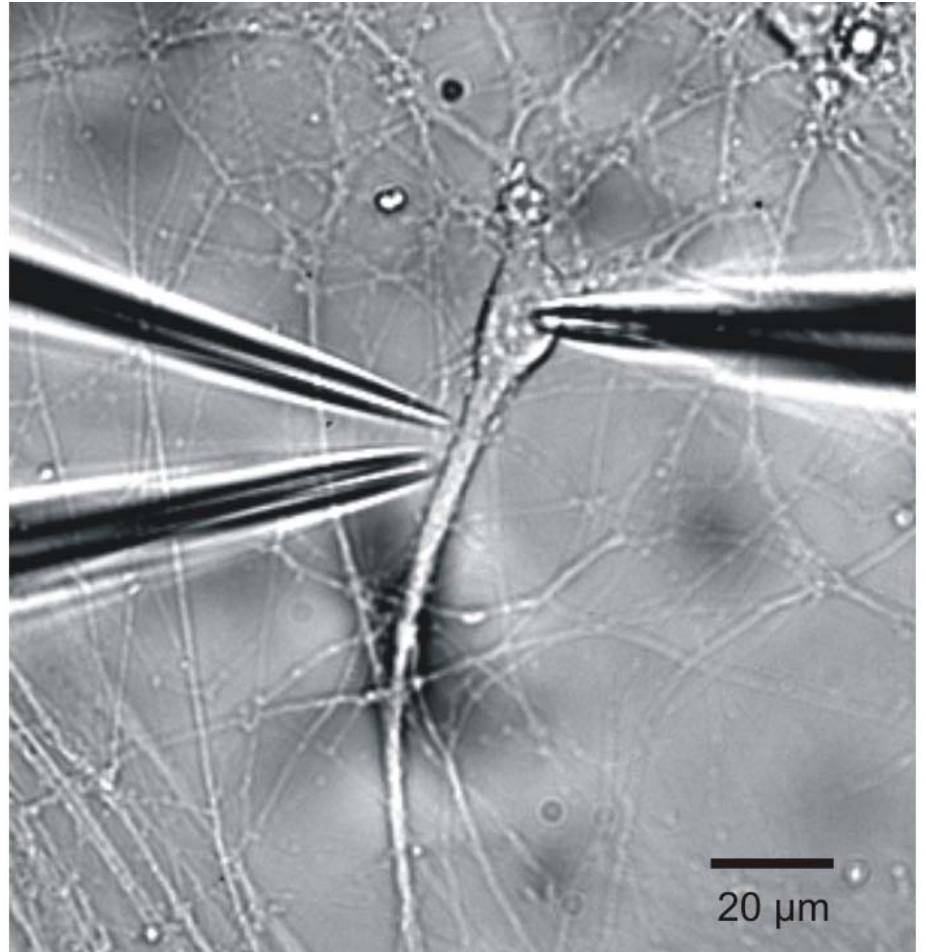
Kleindiek 2MM3A-LS Micromanipulator-System

-shock mount holding of a defined electrode position

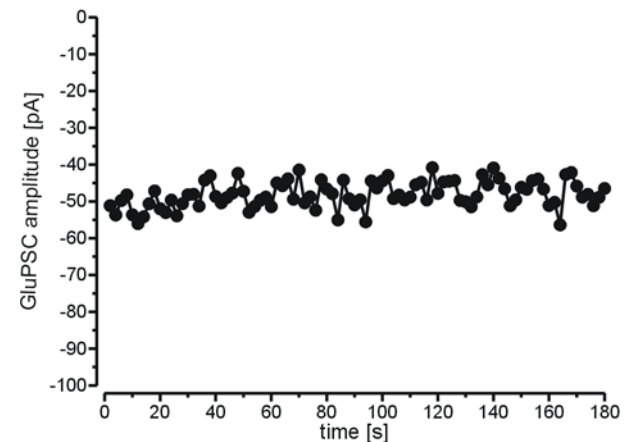
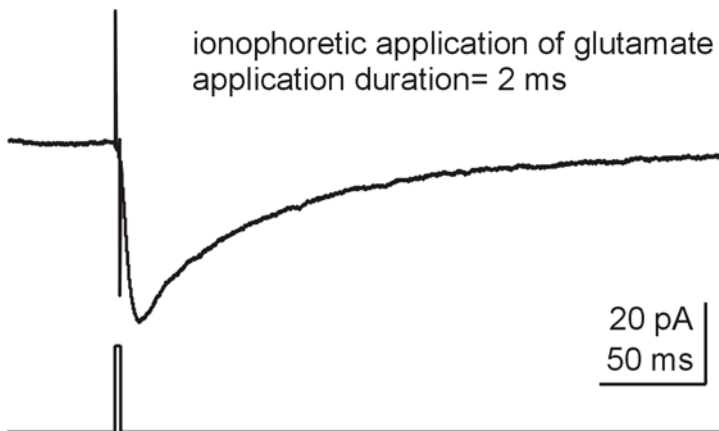
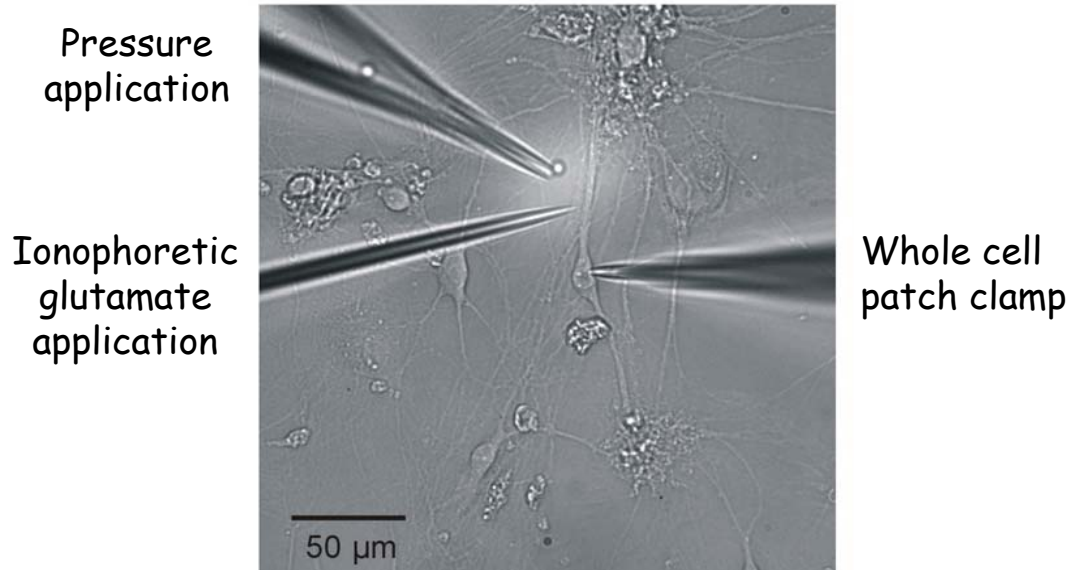
-no drift or vibrations

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

-easy change of the electrode position along the dendrite



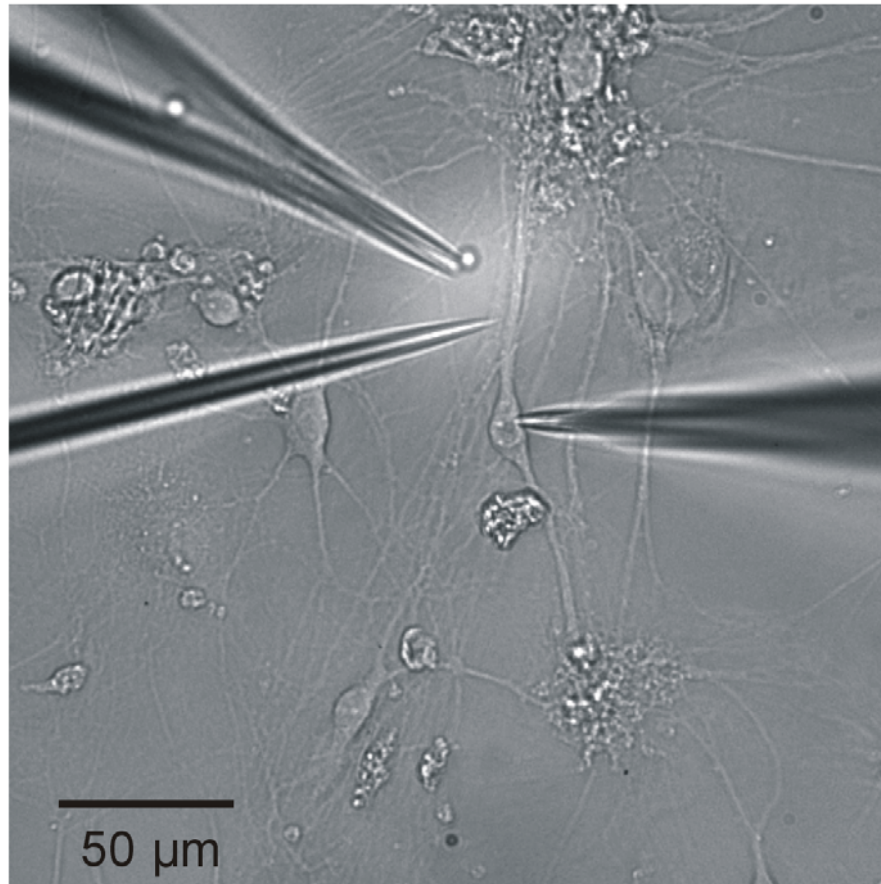
Ionophoretic application of glutamate induces an EPSC like inward current



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