

**P009** Effect of NR3 NMDA receptor subunit expression on NMDA receptor pharmacology.

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Here we report on the effects of NR1/NR3 NMDA receptor expression and the effect of NR3 subunits on NR1/NR2B receptor current amplitude and pharmacology.

Xenopus oocytes were nuclear injected with cDNA for either hNR1/hNR2B (1:3), hNR1/hNR3A (1:10), hNR1/hNR3B (1:10) or hNR1/hNR2B/hNR3B (1:3:10). Currents were recorded using two electrode voltage clamp at  $V_h = -80\text{mV}$ . Cells were continuously perfused with  $\text{Ba}^{2+}$  ringer (mM: NaCl 114.1, KCl 2.48,  $\text{BaCl}_2$  18, HEPES 100, pH7.5) and drugs were applied by bath perfusion. Both NR3A and NR3B subunits significantly reduced the amplitude of NR1/NR2B receptor mediated currents. However no significant currents were observed upon application of either 10 or 100[ $\mu\text{M}$ ] glycine to NR1/NR3A or NR1/NR3B receptors, indicating that they do not form functional glycine receptors. Construction of concentration response curves to glutamate showed that there was no effect of NR3B on glutamate affinity. Concentration response curves were also obtained for memantine, DCKA and ifenprodil to further investigate receptor pharmacology. We have shown that hNR1/hNR3 receptors are not functional and that although the presence of NR3 reduces current amplitude, it does not alter the pharmacology of hNR1/hNR2B NMDA receptors.