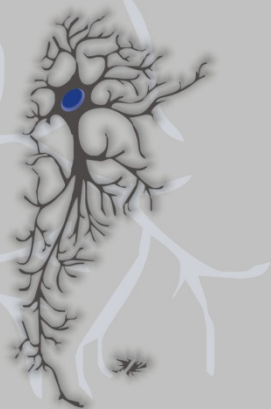


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SAN

**SOCIEDAD ARGENTINA DE
INVESTIGACIÓN EN NEUROCIENCIAS**

A preconditioning stimulus induces neuroprotection in a *in vitro* model of Status Epilepticus (SE)

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Previous studies from our laboratory have shown that 3 h neuronal hyperactivation in a co-culture of hippocampal neurons and astrocytes, induces an increase in neuronal cell death.

It is possible that molecular modifications given by a preconditioning (pre cond) prior to SE can result in increased neuronal survival. We evaluated whether a pre cond modifies neuronal death levels, levels of TrkB with other signaling molecules. We observed that a preconditioning induces neuroprotection only if performed 24 h before the beginning of SE. It was determined that a pattern of TrkB receptor activation was different depending on whether there was or not a preconditioning. By immunocytochemistry, we determined that only the 24h pre cond maintain the TrkB levels while in the other conditions, such as pre 5 hr or SE without pre cond, the receptor protein levels decreases. TrkB receptor blockade by K252a inhibits the neuroprotective effect of 24 h preconditioning. It was observed that related signaling molecules such as neuronal survival Erk is differentially regulated depending on whether the culture was stimulated with 24 h pre, pre 5 h or without a pre cond. Further experiments will be conducted to establish the role of astrocytes in the development of neuronal death.