In vitro studies on the cytoprotective properties of Carbon monoxide releasing molecules and N-acyl dopamine derivatives

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Stellingen

Behorende bij het proefschrift

In vitro studies on the cytoprotective properties of Carbon monoxide releasing molecules and N-acyl dopamine derivatives

1. Carbon monoxide toxicity is not a simple function of serum COHb and tissue hypoxia but is rather associated with its binding to intracellular heme containing proteins.
2. Low concentrations of carbon monoxide slightly increase ATP production, while higher concentration have the opposite effect through inhibition of cellular respiration.
3. Despite the large collection of CORMs and their beneficial therapeutic effects in various animal models, CORMs are lacking an assignable pharmacokinetic profile.
4. The adverse effects of iron release from ET-CORMs should not be disregarded if ET-CORMs are used for protecting cells against cold inflicted injury.
5. NOD is a novel therapeutic in the treatment of ischemia induced acute kidney injury, regarding its ability to induce hypometabolism and thermotolerance.
6. UPR-induction is not associated with apoptosis but initiates an adaptive response that leads to hypometabolism and thermotolerance.
7. The ability of NOD to impair cell proliferation of endothelial cells should not be disregarded if NOD is used as a T-cell suppressive agent.
8. Apart from TRPV1 activation, NOD inhibits NFκB activation, activates the Nrf2-keap1 pathway, suppresses T-cell proliferation and induces the unfolded protein response most likely through its redox active catechol moiety.
9. Observing the economical and sociopolitical crisis of Greece while studying and working abroad, is the first step towards a solution.

Eleni Stamellou, March 2nd, 2016