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Superior Efficacy of HI-6 Dimethanesulfonate Over Pralidoxime Methylsulfate Against Russian VX Poisoning in Cynomolgus Monkeys (*Macaca fascicularis*)

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Abstract

Organophosphorus nerve agents still represent a serious risk to human health. In the French armed forces, the current emergency treatment against OP intoxications is a fully licensed wet-dry dual-chambered autoinjector (Ineurope ®), that contains pralidoxime methylsulfate (2-PAM) to reactivate inhibited acetylcholinesterase (AChE), atropine sulfate (AS) and avizafone chlorhydrate (AVZ). While this treatment is effective against several of the known nerve agents, it shows little efficacy against the Russian VX (VR), one of the most toxic compounds. HI-6 dimethanesulfonate (HI-6 DMS) is an oxime able to reactivate *in vitro* and