

Separate and combined effects of caffeine and dbcAMP on olive baboon (*Papio anubis*) sperm

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Abstract

Background Improvement of baboon sperm capacitation is necessary for achieving high in vitro fertilization (IVF) rates in baboons. In this study, we evaluated separate and combined effects of caffeine and dbcAMP on baboon sperm capacitation. Sixteen male baboons (n = 16) were electroejaculated. Each **Methods** sperm sample was divided into two aliquots: one for chemical activation and the other untreated control. Group 1: dbcAMP (n = 6); Group 2: caffeine (n = 6) and Group 3: combination of caffeine and dbcAMP (n = 4). In each aliquot, sperm motility after 30 minutes of incubation was evaluated as well as zona pellucida (ZP) binding ability after overnight incubation with 4–5 ZP from unfertilized human oocytes. Sperm motility and ZP binding ability in all chemically **Results** activated groups increased significantly as compared to their respective controls ($P < 0.05$). Combined and separate effects of caffeine and dbcAMP **Conclusion** increases baboon sperm motility and ZP binding ability and may improve baboon IVF.