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Encyclopedia of bioanalytical methods for bioavailability and bioequivalence studies of pharmaceuticals

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It is a unique encyclopedia involving bioanalytical methods for bioavailability and bioequivalence (BA/BE) studies of pharmaceuticals for suitable method selection with thousands of combinations and searches against these methods. Most scrutinized literature was collected from different sources including Pub Med. This database has been curetted using published methods for all most all pharmaceuticals. Required information for regular method development/validation such as IUPAC name, structure, solubility, chromatographic conditions, instrumentation information like HPLC, LCMS detection parameters, sample preparations, recovery details, limit of detection and limit of quantification, T_{max}, C_{max} etc, all most required information for routine application in BA/BE studies of pharmaceuticals was incorporated including official pharmacopeias information such as European Pharmacopeia, Japan Pharmacopeia and US Pharmacopeia. Database includes drug based bioanalytical methods covering most required fields and external database links of important drug portals such as drug bank, Rxlist, MEDLINE plus, KEGG Drug ID, KEGG Compound ID, Merck manual, PubChem compound ID, PubChem substance ID and USFDA. Search/querying the database is through drug name, chemical formula or structural search by smiles format. Most sophisticated and user-friendly repository for scientists and chemists are working for bioequivalence and bioavailability studies. Keen selections of bioanalytical methods for pharmaceutical analysis or regular quality control are also possible with E-BABE. E-BABE was built understanding the needs of pharmaceutical industry and laboratories including CROs working on BA/BE studies. Presently it has nearly of 5,000 methods and it will be updated regularly.

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Corticosterone mitigates the stress response in an animal model of PTSD

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Elevated startle response and hyperarousal are hallmarks of PTSD, and are generally considered to evince fear (DSM V). To further examine the efficacy of corticosterone in treating hyper arousal and elevated fear, the present study utilized a learned helplessness stress model in which rats are restrained and subjected to tail shock for three days. These stressed rats develop a delayed long-lasting exaggeration of the acoustic startle response (ASR) and retarded body weight growth, similar to symptoms of PTSD patients. We demonstrate that both pre-stress and post-stress administration of corticosterone mitigates a subsequent exaggeration of the ASR measured 14 days after cessation of the stress protocol. Furthermore, the mitigating efficacy of pre-stress administration of corticosterone (3 mg/kg/day for three days) appeared to last significantly longer, up to 21 days after the cessation of the stress protocol, in comparison to that of post-stress administration of corticosterone. However, pre-stress administration of corticosterone at 0.3 mg/kg/day for three days did not mitigate stress-induced exaggeration of the ASR measured at both 14 and 21days after the cessation of the stress protocol. In addition, pre-stress administration of corticosterone mitigates the retardation of body weight growth otherwise resulting fromthe stress protocol. The relative efficacy of pre versus post administration of corticosterone and high versus low dose of corticosterone on stress induced exaggeration of innate fear response and stress-retarded body weight growth indicate that exogenous corticosterone administration within an appropriate time window and dosage are efficacious in diminishing traumatic stress induced pathophysiological processes.

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