



ChE check mobile

Portable cholinesterase testing system



Testing cholinesterase inhibition

New perspective in prevention and therapy of acute poisoning



Acute pesticide poisoning

Highly toxic agrochemicals are easily available in many countries. Often improperly used or stored, these chemical agents harm humans. Acute pesticide poisoning is a major health problem worldwide.

According to the WHO especially organophosphorous (OP) pesticides cause millions of severe intoxications and fatalities each year. Monitoring the ChE activity opens up a new perspective in prevention and therapy.



Status indicator - ChE enzyme level

The onset of symptoms after an exposure to pesticides varies and makes diagnosis more difficult. One main target of OP compounds is acetylcholinesterase (AChE). Generally, the degree of enzyme inhibition is proportional to the extent of exposure.

The AChE level is the most sensitive status indicator regarding OP poisoning. Today, medical preparedness should include on-site ChE testing to diagnose intoxications as quickly and precise as possible.



Optimised treatment reduces costs

In many countries the health systems lack the capacity to manage the numerous cases of acute poisoning. The health services would need more antidotes, respirators as well as better trained staff.

First of all, clinical symptoms are the basis for the diagnosis and therapy. The standard treatment should include an individual oxime dosing that has to be monitored.

In acute cases, treatment and medication should be adapted individually to get the best benefit. This way an optimised use of antidotes may save lives and reduce high costs of intensive treatment.

Be prepared with ChE check mobile

Reliable and quickly measuring the blood cholinesterase level

Novel in vitro diagnostic device

In cooperation with medical scientists of the German Armed Forces, Securetec developed the compact "ChE check mobile". Study proven precision and accuracy is guaranteed due to enzyme specific algorithms.

The on-site device is used for in vitro diagnostic determination of cholinesterase levels in whole blood. Based on the photometric measurement, AChE and BChE activity can be measured in a user-friendly way.

Designed for quick ChE testing

Portable and easy to operate, this system is designed for emergency use on-site and routine use in laboratories. Medical units are now able to diagnose intoxications caused by OP compounds in a fast and efficient way.

ChE check mobile is produced in Germany according to highest standards. Only one drop of blood is needed to obtain reliable values for AChE or BChE activity within a few minutes.

Main features and operability

The small and lightweight testing system features the following characteristics:

- Results within 4 minutes
- Portable and easy-to-use with touchscreen
- Convenient and safe finger prick sampling
- Operating temperatures between +10 and +50 °C
- User gets medical advice to interpret critical results
- Battery powered; 4.8 to 24 V range for vehicle use
- Memory for 1.000 results; USB interface included

The included flash memory technology makes the systems future proof and user customisable.



Innovative and user-friendly – Securetec

Main handling steps of the assay



1. Start test by determining the background value of cuvette



2. Take blood sample and add glass capillary to cuvette



3. Menu navigates user to measure hemoglobin value



4. Exchange white cap by red "AChE-reagent" cap



5. Dissolve substrate in cap by gently shaking the cuvette



6. Test results are ready within four minutes

Securetec – who we are

Established in 1995, Securetec Detektions-Systeme AG develops leading edge technology to facilitate the detection of illegal drugs and dangerous substances. Securetec is a global leader in road side drug screening and our detection systems are successfully employed across a multitude of applications.

Our in-house R&D facilities and production processes meet the highest clinical standards. Having direct control of R&D and production allows us to respond quickly to new and emerging threats, specific customer requirements and legal regulations. Since 2004 we have been certified according to the international standard EN ISO 13485 (medical devices) and the German standard ISO 9001 (quality management).



Securetec Detektions-Systeme AG · Lilienthalstrasse 7 · 85579 Neubiberg · Germany
T +49 89 203080-1651 · F +49 89 203080-1652 · info@securetec.net · www.securetec.net

© Securetec Detektions-Systeme AG · 2013 · 70507-v03-EN-130227

Picture credits: Securetec Detektions-Systeme AG