

# Pyrazinamidase Test

**REF** CK4537

## Pyrazinamidase Reagent

**REF** CK9801

### Intended Use

This test detects the presence of the enzyme pyrazinamidase which can be used to distinguish between potentially toxigenic and non-toxicogenic *Corynebacteria* spp.

### Background

The Elek and guinea pig lethality test have been used to determine whether a *Corynebacterium* is pathogenic or non-pathogenic. The guinea pig test is accurate but obviously undesirable while the Elek test is complicated, difficult to perform and not always accurate

Most non-toxicogenic species of *Corynebacteria* possess the enzyme pyrazinamidase which catalyses the hydrolysis of pyrazinamide into ammonia and pyrazinoic acid, this hydrolysis can be detected by the addition of 20% (w/v) Ammonium ferrous sulphate to the test material. Toxigenic species are not able to hydrolyse the pyrazinamide.

### Precautions

This product is for in-vitro diagnostic use and should be used by properly trained laboratory professionals. Universal precautions should be taken in the handling,

processing and discarding of all materials used to perform the test. Do not use reagents after the expiration date shown on the product label has expired.

### Methods

CK4537 Pyz Test. Each tube contains a Pyz tablet containing 2.5mg of pyrazinamide.

CK9801 Pyz Reagent. Each tube contains a Ferrous Ammonium Sulphate tablet.

Use a fresh 18-24 hour culture.

Take 1 tube of Pyz Test and add 5 drops of sterile water.

Inoculate heavily (to at least McFarland 8) using a visible paste of the organism on a loop and mix well.

Incubate at 35-37°C for 4 hours or overnight.

After incubation add 1-2 drops of prepared Pyz Reagent and observe for a colour change, development of an orange-red or brown colour is a positive reaction.

### Preparation of CK9801 Pyz Reagent:

To prepare the reagent, remove the stopper assembly and add 3ml of sterile water. Replace the stopper assembly and shake to dissolve the tablet.

On reconstitution, the prepared tube has a 30 day shelf life when stored at 4°C

### Results

Positive Reaction - Immediate appearance of an orange-red or brown colour indicating the isolate is not a toxin producer

Negative Reaction – Reaction tube will remain colourless or grey

### Limitations

The positive reaction may fade on sitting. If required the colour can be restored by adding another drop of reagent (up to 3 times maximum).

This test is a screen only and should not be used for confirmation of identification. All isolates should be confirmed by other methods at a qualified laboratory.

### Quality Control

The test should undergo a quality control check daily or immediately prior to use.

Bacteria

Positive control-

*Corynebacterium xerosis* ATCC 373

Negative control-

*Corynebacterium diphtheriae* ATCC 13812

### Shelf Life & Storage

The expiry date, storage temperature (CK4537: 2-8°C, CK9801: 10-30°C) and storage conditions are indicated on the outer package label.

### Materials provided

Supplied separately. Each pack of CK4537 contains 28 tubes, each containing a Pyz Tablet. Each pack of CK9801 contains 5 dropper bottles, each dropper bottle contains Ferrous Ammonium Sulphate requiring preparation prior to use.

### Materials required but not provided

Sterile water.

Sterile loops.

CK4537 and CK9801 are supplied separately









### References

Standards Unit, Microbiology Services, PHE. UK SMI, ID2-Identification of *Corynebacterium* species, Issue 4.1, 29.10.14.

Colman, G., Weaver, E., Efstratiou, A. Screening tests for pathogenic

*Corynebacteria*. J. Clin. Pathol. 1992;45:46-48

Efstratiou, A., Maple, C. Manual for the Laboratory Diagnosis of Diphtheria. The Expanded Programme on Immunisation in the European Region of WHO. 1994; ICP/EPI 038

	Catalogue number
	Batch number
	Use by date
	In-Vitro Diagnostic device
	Contains sufficient for <n> tests
	Temperature storage limitations
	Consult instructions for use
	Manufacturer

Issue	Date	Comments
6	03/08/2020	IFU format revision.

