

Corynebacterium diphtheriae



Corynebacterium diphtheriae is the causative agent of diphtheria.

Diphtheria bacteria are Gram-positive, pleomorphic, often club-shaped rods. The individual cells tend to group in V, Y, or palisade arrangements (see fig.).

Humans are the sole pathogen reservoir for diphtheria. Infection sources include infected persons and carriers (rare). The disease is usually transmitted by droplet infection, or less frequent indirectly via contaminated objects. Infected are the mucosa of tonsils, pharynx, nose and conjunctiva. Wounds and skin lesions can also be infected. The pathogens invade the host through these portals, reproduce, and produce toxin, resulting in cell damage. After an incubation period of 2-5 days the inflammatory reaction leads to collection of a grayish-white exudate, the matrix of the "diphtherial pseudo-membrane" consisting of fibrin, dead granulocytes, and necrotic epithelial cells. This coating adheres quite strongly to the mucosa. It may extend into the larynx, thus eventually hindering respiration. Regional lymph nodes are highly swollen.

The intoxication leads to parenchymal degeneration in the cardiac muscles, liver, kidneys and adrenal glands. Motor cranial nerve paralysis. Late sequel damage due to the intoxication is frequently seen after the acute infection has subsided. Death can be caused.

Incidence levels in central Europe are lower than in other countries.

Infections may be diagnosed by:

- Microscopy: Determination of the pathogen in cultures from local infection foci.
- Serology: Determination of specific antibodies based on the ELISA-technique

NovaLisa™ Corynebacterium diphtheriae toxin/Corynebacterium diphtheriae toxin 5S IgG ELISA:

The NovaLisa™ Corynebacterium diphtheriae toxin/Corynebacterium diphtheriae toxin 5S IgG ELISA is intended for the quantitative determination of IgG- class antibodies against Corynebacterium diphtheriae Toxin in serum or plasma (citrate).

NovaLisa™ Corynebacterium diphtheriae toxin 5S IgG plus ELISA:

The NovaLisa™ Corynebacterium diphtheriae toxin 5S IgG plus ELISA contains an additional control for quality control in the lab.

Antigens:

Corynebacterium diphtheriae Toxoid antigens

Specific performance characteristics:

	Intraassay			Interassay			Sensitivity %	Specificity %
	n	Mean	CV %	n	Mean	CV %		
IgG	24	0,95	12,1	12	0,04	11,4	100	84,6
	24	3,02	2,1	12	0,16	2,8		

Order information:

ELISA	Number of determination	Product number
Corynebacterium diphtheriae toxin IgG	96	CORG0090
Corynebacterium diphtheriae toxin 5S IgG	96	CORG5009
Corynebacterium diphtheriae toxin 5S IgG plus	96	PCORG009

! Measurable ranges differentiate:

4-standard-test: 0.0 – 0.15 IU/ml

5-standard-test: 0.0 – 1.0 IU/ml

Plus Test: 0.0 – 1.0 IU/ml

External Control:

With Liquicheck Torch plus from Biorad an external control is available for NovaLisa™ Corynebacterium diphtheriae toxin IgG, NovaLisa™ Corynebacterium diphtheriae toxin 5S IgG and NovaLisa™ Corynebacterium diphtheriae toxin 5S IgG plus.