

# Diagnostic Discs



**Code:** DD0003      **X FACTOR DISCS**  
**Code:** DD0004      **V FACTOR DISCS**  
**Code:** DD0005      **X + V FACTOR DISCS**

## Purpose

*Discs impregnated with growth factors for the differentiation of the Haemophilus group of bacteria.*

## Contents

1 cartridge containing 50 discs.

## Description

Paper discs impregnated with growth factors for the differentiation of the *Haemophilus* group of bacteria.

*Haemophilus* and *Bordetella* species may be identified according to whether basal media require the addition of 'X' and 'V' growth factors before growth will occur. X factor (haemin) and V factor (coenzyme I) may be directly incorporated into a basal medium or, more conveniently, are impregnated into paper discs which are placed upon the surface of an inoculated basal medium. Colonies of those species which show growth only in the vicinity of a disc impregnated with the particular growth factor are unable to synthesise it in optimal amounts<sup>1</sup>.

## Technique

Evenly inoculate the surface of a Blood Agar Base plate (CM0055 without blood) with the organism to be tested and aseptically apply the Diagnostic Discs in the following positions around the periphery of the plate (approximately 1 or 2 cm in from the edge of the medium):

X Factor Disc	12 o'clock
V Factor Disc	4 o'clock
X+V Factor	8 o'clock

Incubate overnight at 35°C or for 48 hours if necessary, and observe for growth or no growth at the edge the disc. If the organism requires X factor alone, it will grow only at the edge of the X and X + V factor discs; if it requires V factor alone, it will grow at the edge of the V and the X + V factor discs; if both X and V factors are required, it will grow only in the vicinity of the X + V factor disc.

### Growth of Bacterial Species with and without X and V factors

	No Growth Factors	With X Factor	With V Factor	With X+V Factor
<i>Haemophilus influenzae</i>	-	-	-	+
<i>Haemophilus aegyptius</i> (Koch-Weeks bacillus)	-	-	-	+
<i>Haemophilus parainfluenzae</i>	-	-	+	+
<i>Haemophilus ducreyi</i>	-	+	-	+
<i>Bordetella pertussis</i> *	+	+	+	+

+ Growth – No growth

\*Requires special media for initial isolation, e.g. Bordet-Gengou medium, but laboratory strains show adaptation.

N.B. V and X + V FACTOR DISCS MUST BE STORED AT -10 to -20°C.

### Quality Control

Use known strains of *Haemophilus* species to monitor the performance of the discs and the medium.

### Reference

1 Kilian M. (1980) *Haemophilus*. in *Manual of Clinical Microbiology*. Eds. Lennette et al. Amer. Soc. for Microbiol. 3rd Edn. Washington.

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