

The Service Company

Henkel-Ecolab

Expert opinion on the virucidal efficacy of Olympus EndoDis + Olympus EndoAct tested against Polio-, Adeno-, Vaccinia and Simianvirus 40 according to the DVV Guideline

1. Summary

Olympus EndoDis + Olympus EndoAct is designed for use in chemo-thermal disinfection procedures. The product combination was tested for its virucidal efficacy against Polio-, Adeno-, Vaccinia- and Simianvirus 40 according to the DVV-guideline (DVV, German Association for the Control of Virus Diseases). A 1 % application solution proved to be effective within 5 minutes if used with 1 % Olympus EndoAct at 35 °C.

2. Introduction

The product-combination consisting of Olympus EndoDis + Olympus EndoAct is designed for use in chemo-thermal instrument disinfection procedures. The combination was tested for its virucidal efficacy according to the guideline of the DVV (Deutsche Vereinigung zur Bekämpfung der Viruskrankheiten; German association for the Control of Virus Diseases: Zbl. Hyg. 1990: 189, 554-562). Experiments were performed in VTB-Microbiology, Henkel KGaA and are documented under B01.00467.

3. Material and Methods

Test product:

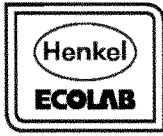
Olympus EndoDis,
Olympus EndoAct.

Application concentrations:

1 % Olympus EndoDis + 1 % Olympus EndoAct.

Test viruses:

*Poliovirus Type 1, Strain Mahoney,
Adenovirus Type 2, Strain Adenoid 6,
Vacciniavirus, Strain Elstree,
Simianvirus 40, Strain 777.*



Test conditions:

Suspension test according to the DVV-guideline with 5 min contact time at 35 °C. The virus suspensions used for the test had titres of about 2×10^{11} ID₅₀ / ml for Poliovirus and $2 \times 10^{8.5}$ ID₅₀ / ml for Adenovirus, Vacciniavirus and Simianvirus 40. The virus titrations and the cytotoxicity tests were carried out on RD-cells (for Poliovirus), Hela-cells (for Adenovirus), Vero-cells (for Vacciniavirus) and CV1-cells (for Simianvirus 40). The efficacy of a disinfectant is regarded as sufficient according to the guideline, if the log reduction factor is ≥ 4 .

Test procedure:

Virus suspensions were incubated with the disinfectant diluted to the correct application concentration. After the individual reaction time the test suspensions were diluted according to the progression 1:10 / 100 / 1000 etc. The virus content was determined by means of a microtitration system. In addition to cell, virus and water controls, the cytotoxicity of the product was measured as well.

Protein load:

The tests were carried out with and without protein load (0.2 % bovine serum albumin, BSA or 10 % foetal calf serum, FCS).

4. Results

Olympus EndoDis in combination with Olympus EndoAct proved to be an effective virucidal combination. As to be seen in table 1 all four test viruses were inactivated by a 1 % Olympus EndoDis solution + 1.0 % Olympus EndoAct at 35 °C.

Düsseldorf, September 20th 2001

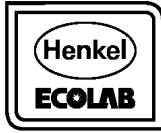
HENKEL-ECOLAB GMBH & CO OHG

i.V.

i.V.

Dr. B. Meyer

PD Dr. Dr. F. von Rheinbaben



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Tab. 1

**Virucidal efficacy of Olympus EndoDis + Olympus EndoAct
against Polio-, Adeno-, Vaccinia- and Simianvirus 40
tested according to the DVV-guideline.**

**Results (log 10 reduction factors) of the quantitative suspension test
with and without protein load.**

<i>Product</i>	<i>Application concentration [Vol %]</i>	<i>Protein load</i>	<i>Virus</i>	<i>Reduction factor after 5 min application time</i>
Olympus EndoDes + Olympus EndoAct	1+1	- FCS BSA	Polio Mah.	≥ 5.5 5.1 4.8
Water control (Titre)	-	- FCS BSA		9.0 9.0 9.0
Olympus EndoDes + Olympus EndoAct	1+1	- FCS BSA	SV40	≥ 4.0 ≥ 4.0 ≥ 4.0
Water control (Titre)	-	- FCS BSA		6.5 6.5 6.5
Olympus EndoDes + Olympus EndoAct	1+1	- FCS BSA	Adeno	≥ 4.0 ≥ 4.0 ≥ 4.0
Water control (Titre)	-	- FCS BSA		6.5 6.5 6.5
Olympus EndoDes + Olympus EndoAct	1+1	- FCS BSA	Vaccinia	≥ 4.0 ≥ 4.0 ≥ 4.0
Water control (Titre)	-	- FCS BSA		6.5 6.5 6.5