Disinfectant Testing Services

VIRUSURE
VIRUS & PRION TESTING

Evaluation of Disinfectant Solutions per Robert Koch Institute (RKI) Guidelines

The evaluation of the efficacy of disinfectant according to the RKI (www.rki.de) and the German Association for the Control of Virus Diseases (DVV: www.dvv-ev.de) provides a standard that ensures that the level of virus inactivation determined experimentally accurately reflects the likely inactivation potential of the disinfectant solution. The measurement of virus inactivation in a homogeneous suspension is not necessarily considered to represent conditions encountered in routine daily practice. It does however allow statements about the efficiency of the tested disinfectant to be made, and makes possible a comparison of the effectiveness of different disinfectants under a defined set of conditions.

The selection of viruses is determined by the intended application area of the disinfectant. Viruses can be broadly separated into two groups, either enveloped (those containing a lipid bilayer surrounding the virus core) and non-enveloped (i.e. those containing no membrane, and where the genome is bound up in a protein shell). In general, non-enveloped viruses demonstrate a higher resistance to disinfection. Consequently, disinfectant solutions currently fall into two categories:

1. Those with a "***limited spectrum of virucidal activity***": i.e. those effective only against enveloped viruses
2. Those with "***virucidal activity***": i.e. those disinfectants which additionally can also inactivate non-enveloped viruses

Not all disinfectants must be effective against both enveloped and non-enveloped viruses, and depending on the field of application, the model viruses against which the disinfectant should be tested are to be selected accordingly. Possible model viruses for studies with disinfectants are shown in Table 1, classified according to application area.

Disinfectant evaluation studies at ViruSure have been specifically designed to comply with the guidelines established by the RKI/DVV and include all the necessary internal controls to allow full and transparent interpretation of the inactivation potential. A number of the model viruses included Table 1 are either already available for disinfection studies at ViruSure or will be established in the coming months.

We would be happy to provide you with a quotation for our services, along with an experimental protocol detailing how the studies are performed.

Table 1: Virus Selection for Disinfectant Evaluation Studies

Target Virus Class	Example Model Virus(es)	Genome	Size (nm)	Envelope?	Comments
Viruses for use with disinfectants with a "limited spectrum of virucidal activity"					
Poxviruses	Vaccinia virus	dsDNA	200-400	Yes	
Pestiviruses	Bovine viral diarrhoea virus	ssRNA	50-70	Yes	
Viruses for use with disinfectants which have "virucidal activity"					
Adenoviruses	Adenovirus type 5	dsDNA	70-80	No	
Polyomaviruses	Simian virus type 40	dsDNA	40-50	No	
Picornaviruses	Hepatitis A virus (Polio virus)	ssRNA	28-30	No	In anticipation of the WHO goal of polio virus eradication, the replacement of polio virus by HAV is accepted
Caliciviruses	Feline calicivirus	ssRNA	35-40	No	
Parvoviruses	Porcine parvovirus	ssDNA	18-22	No	Highly resistant virus

ViruSure GmbH
Tech Gate Technology and Science Park
Donau City Strasse 1, A-1220
Vienna, Austria

Tel: +43 (0) 1 2699 120
Fax: +43 (0) 1 2699120 22
Website: www.virusure.com
Email: Andy_Bailey@virusure.com

VIRUSURE
VIRUS & PRION TESTING