

**Safety Information on *GenomONE*TM
(HVJ Envelope Vector Kit)**

The HVJ (Hemagglutinating virus of Japan) envelope (HVJ-E) contained in “GenomONE” kit has neither infective nor proliferative potentials.

HVJ-E is made of Sendai virus (HVJ). The genomic RNA of Sendai virus has been completely inactivated using some reagent, leaving no possibility of infection or proliferation of HVJ-E in humans or experimental animals. Thus, this non-viral transfection tool does not require any special manipulation or facility and can be used safely in ordinary laboratories.

However, since it retains membrane-fusing activity, it is advisable that the investigators wear protective goods such as gloves and mask, to avoid inhalation by or attachment to humans.

Upon completion of an experiment using this product, the test materials, containers, *etc.*, should be autoclaved and then discarded appropriately.

The characteristics of HVJ-E and applications of “GenomONE” are described in the following articles.

1. Kaneda, Y., *et al.*: Hemagglutinating virus of Japan (HVJ) envelope vector as a versatile gene delivery system. *Molecular Therapy*, **6**, 219-226 (2002).
2. Kaneda, Y., *et al.*: New vector innovation for drug delivery: development of fusigenic non-viral particles. *Curr. Drug Targets*, **4**, 599-602 (2003).
3. Kotani, H. *et al.*: The HVJ-envelope as a innovative vector system for cardiovascular disease. *Current Gene Therapy*, **4**, 183-194 (2004).
4. Kaneda, Y., *et al.*: Development of HVJ envelope vector and its application to gene therapy. *Advances in Genetics*, Vol. 53, pp308-332 (2005).

Please visit our web site at <http://www.iskweb.co.jp/hvj-e> for further information on “GenomONE”. You can find published *in vitro* and *in vivo* researches using it.

This product is for research purposes only. It may not be used for medical care or clinical purposes in humans or animals or for intra- or extracorporeal diagnosis.

Ishihara Sangyo Kaisha, Ltd., assumes no responsibility for any accident or damage arising from the use of this product.

Quality Control of HVJ-E contained in “GenomONE”

Lack of possibility of infection or proliferation of HVJ-E in humans or experimental animals has been confirmed by means of the following three methods.

(1) Assay using cultured cells

LLC-MK₂ cells (monkey kidney cell line; ATCC CCL-7) were treated with appropriate amounts of HVJ-E. After incubation for two days, existence of F (fusion) envelope proteins in the cell surfaces was determined by means of immunocytochemistry using anti-F polyclonal antibody and fluorescence-labeled secondary antibody.

Live HVJ-treated groups exhibited strong fluorescence-positive features, while HVJ-E-treated groups were fluorescence-negative in this assay, suggesting that HVJ-E includes no infectious (no proliferative) live virus.

This assay is performed for each production lot.

(2) Assay using fertilized chicken eggs

An appropriate amount of HVJ-E is inoculated into the chorioallantoic cavity of fertilized chicken eggs. After three-day cultivation, agglutinating activity in the chorioallantoic fluid is determined using chicken erythrocytes.

Live HVJ-treated groups exhibited significant increases in hemagglutination unit, while HVJ-E-treated groups exhibited no increase in the titer, suggesting that HVJ-E includes no infectious (proliferative) live virus.

This assay is performed for each production lot.

(3) Assay using mice

Mice subjected to intranasal injection of an appropriate amount of HVJ-E are bred with normal mice (in the same cages) for six weeks. Sera prepared from mice injected with HVJ-E exhibited significant levels in anti-HVJ antibody (ELISA), whereas sera isolated from co-bred normal mice exhibited no increase in the antibody level, suggesting that HVJ-E includes no infectious live virus.