

## 4.2 Selection of Appropriate Cell Lines

Selection is based on the ability of the cell lines to detect the viruses of interest and, whenever possible, utilizing cell lines capable of detecting different viral agents to increase the efficiency of the laboratory procedures. At the minimum, one cell line specified for the virus of interest will be used. At least two cell lines should be used for all samples to maximize the detection of viral agents present in the samples (Bouchard et al., 1999; OIE 2000; Plumb 1999; Thoesen 1994; Wolf 1988).

### A. General Considerations

1. All viral testing will utilize cell lines traceable to cell lines from the American Type Culture Collection (ATCC) when available.
2. At the minimum, all cell lines should be tested annually for viral sensitivity and mycoplasma infection.
3. Work with only one cell line at a time.
4. Aseptic technique is required for cell culture work.

### B. Cell Line Sensitivities

1. The EPC cell line provides high sensitivity for IHNV and SVCV.
2. The EPC, FHM and BF-2 cell lines provide high sensitivity for VHSV.
3. The SHK-1 and ASK cell lines provide high sensitivity for ISAV.
4. The FHM and BF-2 cell lines provide high sensitivity for LMBV.
5. CHSE-214 cell line provides high sensitivity for IPNV and OMV.
6. The WSS-2 cell line provides high sensitivity for WSHV.

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**Table 4.1.** Recommended cell lines to detect target viruses.

Virus <sup>a</sup>	Cell Line	Common Name	ATCC <sup>b</sup> Designation
IHNV	Epithelioma Papulosum Cyprini	EPC	CRL-2872
IPNV	Chinook Salmon Embryo	CHSE-214	CRL-1681
ISAV	Salmon Head Kidney	SHK-1	
	Atlantic Salmon Kidney	ASK	CRL-2747
LMBV	Fat Head Minnow	FHM	CCL-42
	Bluegill Fry	BF-2	CCL-91
OMV	Chinook Salmon Embryo	CHSE-214	CRL-1681
SVCV	Epithelioma Papulosum Cyprini	EPC	CRL-2872
VHSV	Epithelioma Papulosum Cyprini	EPC	CRL-2872
	Fat Head Minnow	FHM	CCL-42
	Bluegill Fry	BF-2	CCL-91
WSHV	White Sturgeon Spleen	WSS-2	

<sup>a</sup> Viruses: IHNV- Infectious Hematopoietic Necrosis Virus; IPNV- Infectious Pancreatic Necrosis Virus and other related birnaviruses; ISAV – Infectious salmon anemia virus; LMBV – Largemouth Bass Virus and other related iridoviruses; OMV - *Oncorhynchus masou* Virus; SVCV – Spring viremia of carp; VHSV - Viral Hemorrhagic Septicemia Virus; WSHV - White Sturgeon Herpesvirus.

<sup>b</sup> American Type Culture Collection, Rockville, MD