Cell Culture Adaptation to new Fetal Bovine Serum

1. Purpose: To adapt cell lines to new lots of Fetal Bovine Serum

2. Responsibility: It is the responsibility of the individual to determine the best method for adapting cells to new serum lots. Minor adjustments to stated protocol are always cell line dependent. Passaging cells according to a strict schedule ensures reproducible behavior and allows evaluation of the health status of cultured cells.

3. Definitions: Sub culturing or passaging – the removal of medium and transfer of cells from a previous culture into fresh medium or a procedure that enables further propagation of a cell line.

4. Equipment: Equipment of appropriate design for cell culture operations including but not limited to; incubator, laminar flow hood, microscope, pipet aid, etc.

5. Materials: Culture vessels containing cells in healthy phase of growth or cryopreserved cells that are at least 90% viable prior to cryopreservation. Consumables and disposables used in cell culture operations including but not limited to; liquid media and additives, serum, sterile disposable culture vessels and liquid handling utensils, gloves, etc.

6. Precautions: Wear appropriate personal protective equipment. Use proper aseptic technique.

7. Procedure:

7.1. Media Preparation

7.1.1. Prepare appropriate culture media with additives depending on cell type.

7.1.2. Supplement cell culture media with a mixture of previously established fetal bovine serum and the new lot of Peak Serum FBS.

7.1.2.1. Use a mixture of the old serum and Peak Serum FBS. At a minimum, start with a 50/50 blend for several passages and observe the health. If satisfactory, use the new serum for several additional passages. If your cells are easily grown in most lots of FBS then they may not require as much time when compared to cell lines that are known to be more difficult to grow which will require longer to adapt.

7.1.2.2. Finicky or difficult cells should be started in a 25/75 mixture of new to old for several passages. Increase the new serum by increments of 25% for several passages until 100% new serum is achieved. Cells should be gradually introduced to the new serum as opposed to all at once.

7.1.2.3. Maintain the cells in the appropriate mixture of new to old serum until the cells look healthy before increasing the ratio of new to old. This is up to the individual to determine.

7.1.2.4. Once the cells become adapted, it will not be necessary to repeat the adaptation process when switching lots of Peak Serum FBS.