What is claimed is:

1. A container for separating microcarriers ~~from a process fluid~~, comprising:

a first compartment;

a manifold disposed within the first compartment and constituting a plenum, the manifold comprising an inlet port providing a fluid path into ~~the first~~ a second compartment;

an outlet port providing a fluid path exiting the first compartment; and

a second compartment disposed inside the first compartment, secured to said manifold and fluidly connected with ~~the~~ said inlet port ~~of the first compartment~~, said second compartment comprising a plurality of discrete microcarrier receiving regions, wherein each microcarrier receiving region configured to allow process fluid to pass from the second compartment to the first compartment while retaining said microcarriers, and each microcarrier receiving region comprises porous mesh having a sufficient porosity.

2. The contai~~ner of claim 1, wherein each microcarrier receiving region comprises porous mesh having a porosity sufficient to allow process fluid to pass while retaining said microcarriers.~~

~~3. The container of claim 1 wherein the microcarrier receiving regions in fluid communication with a plenum to form a manifold.~~

~~4~~2. The container of claim 1, wherein each microcarrier receiving region comprises a mesh bag. ~~coupled to a manifold that is fluidly connected to an input port of the first compartment.~~

~~5~~3. The container of claim 1, wherein each microcarrier receiving region comprises a porous pleated bag.