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Innovative Tools for Life Sciences

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LIFE SCIENCES

How Efficient is Your Lab? Part II - Optimise Storage Density with FluidX Tubes

fluidX™

INTRODUCTION

Are you running out of -80C freezer space? Laboratories typically store biological samples in much larger sized tubes than is necessary given the actual volume of samples stored. This leads to the potential for your upright Freezer to store up to 141% more samples.

It is common for a laboratory to be using 2ml cryo tubes when storing typical volumes of 1.0ml or 0.5ml of sample. Such excessive air space, which well exceeds the expanse required by frozen aqueous solutions (see: 'How Safe Are Your Samples: Part II – Working Volume), is inefficient in its use of storage space within an upright freezer.

Given the broad range of FluidX sample tubes available it is possible to optimise storage space whilst retaining a tube's safe working volume. An example of this is shown below.

STORAGE EXAMPLE

A small biobank storing biologicals is using a common upright -80*C freezer to store samples in 2.0ml cryo sample tubes. The sample volume actually being stored is only 0.5ml, the breakdown in storage is:

40,500 2.0ml Tubes in CryoBoxes

- Holds 25 Freezer Racks
- Each Freezer Rack holds 20 cryoboxes
- Standard Cryobox in labs is 9x9 configuration
- Total Tube Capacity: 40,500 x 2.0ml tubes

OPTIMISATION EXAMPLES

The same biobank could optimise the storage collection based on the real volume of the samples, choosing one of the following tube types:

Tube Size	Freezer Racks	SBS Tube Racks (per Freezer Rack)	HD 14 x14 Cryoboxes	2ml Tubes in 9 x 9 Cryoboxes	Total Capacity	Capacity Increase
1ml 	25	28	-	40,500	**67,200**	65%
0.7ml 	25	30	-		**72,000**	77%
1ml 	25	-	20		**98,000**	141%

From the above alternatives it is clear to see the huge potential benefits of switching to a smaller volume tube that is in line with the real volume of the biological sample being stored in upright freezers. To learn more about how Brooks Life Sciences can help optimise your sample storage density get in contact with your local representative today.