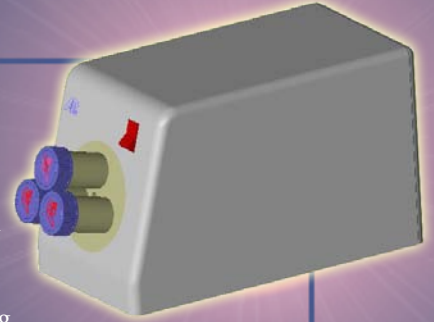


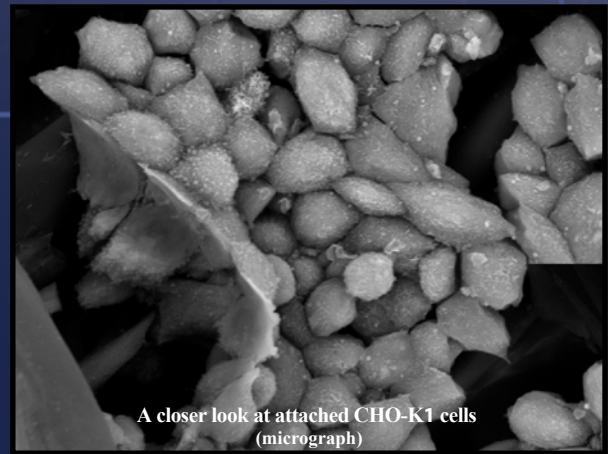
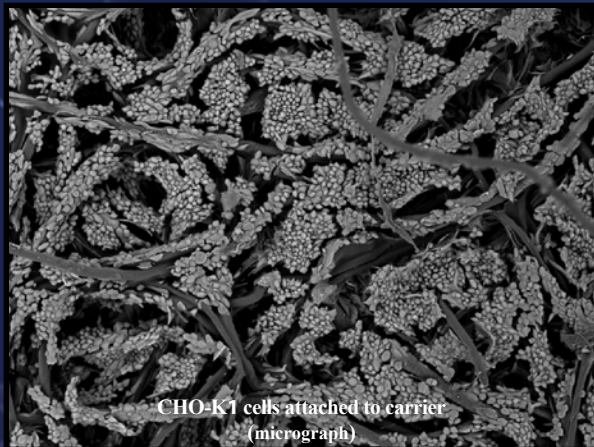
# Self-Rotating Mini-Bioreactor (Sample Version)

## Mini-Bioreactor

### The most affordable cell culture device



- ◆ Self-rotating mini-bioreactor (Sample version) can be used in any CO<sub>2</sub> incubator or any 37° C incubator (requires a higher seeding density). The instrument carries three 0.6-gram paper-disc carrier rotating vessels, one 6-gram rotating paper-disc carrier vessel or one 40ml rotating vessel. The vessels are made of a specially optimized surface material (see SEM micrograph) for ambient air oxygen transfer into culture medium while rotating. The paper-disc carriers are constructed from special material to achieve an optimum number of residing cells and the least amount of cell death (see SEM micrograph).
- ◆ One 0.6-gram paper-disc carrier-filled rotating vessel can achieve cell numbers equal to that of two-thirds of one 3-liter roller bottle, and one 6-gram paper-disc carrier-filled rotating vessel can reach cell numbers equal to that of six 3-liter roller bottles. These vessels are ideal for vaccine producing cell culture (Vero) and protein-producing cell culture (CHO).
- ◆ The 40ml rotating vessel is ideal for single cell suspension or micro-carrier suspension cell culture. It is characterized by its maximized O<sub>2</sub> transfer capability and minimized mixing- and shear-force.
- ◆ Successful cell cultures using the above mini-scale vessels are supported by scale-up bioreactors (5 liter, 50 liter, 150 liter and 300 liter) both for suspension and paper-disc carrier perfusion cultures (see [www.amprotein.com](http://www.amprotein.com) or [www.amprotein-china.com](http://www.amprotein-china.com)).



40ml



1g



10g



Size	Cell Type	Culture Method	Highest Cell Density	Media	Optimization
40ml	Cytodex (CHO-S)	Fed-batch	1.0~1.5 x 10 <sup>7</sup> cells/ml	B001	Not optimized
	Tobacco Cell	Batch	PCV = 85~90%	MS	Not optimized
	Carrot Callus	Batch	↑ Growth 27~32 times	MS	Optimized
	Cytodex (CHO-K1)	Fed-batch	3.0~8.0 x 10 <sup>7</sup> cells/ml	B001	Not optimized
0.6g	CHO-S	Fed-batch	3.3~6.5 x 10 <sup>8</sup> cells/g	B001	Not optimized
	CHO-K1	Fed-batch	2.8~4.2 x 10 <sup>8</sup> cells/g	B001	Not optimized
	Vero	Fed-batch	2.0~4.2 x 10 <sup>8</sup> cells/g	V001	Optimized
	Marc145	Fed-batch	3.8~5.2 x 10 <sup>8</sup> cells/g	DMEM/F12	Not optimized
	Diploid Somatic Cells	Fed-batch	4.8~7.2 x 10 <sup>8</sup> cells/g	DMEM/F12	Not optimized
	MDCK	Fed-batch	3.5~6.0 x 10 <sup>8</sup> cells/g	DMEM/F12	Not optimized
	SF9 (insect)	Batch	1.8~3.0 x 10 <sup>7</sup> cells/g	SFM900 II	Not optimized
	ST (mammalian)	Fed-batch	3.2~4.0 x 10 <sup>8</sup> cells/g	DMEM/F12	Not optimized
	DF-1 (chick)	Fed-batch	2.0~3.0 x 10 <sup>8</sup> cells/g	DMEM/F12	Not optimized
	CIK (fish)	Fed-batch	0.8~1.2 x 10 <sup>8</sup> cells/g	DMEM/F12	Not optimized
6g	CHO-S	Fed-batch	4.3~6.7 x 10 <sup>8</sup> cells/g	B001	Not optimized
	CHO-K1	Fed-batch	3.2~5.7 x 10 <sup>8</sup> cells/g	B001	Not optimized
	Vero	Fed-batch	2.0~4.2 x 10 <sup>8</sup> cells/g	V001	Optimized



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