

Optimum Growth® 7L Flask

Large Volume With Easy Handling

- 5L working volume for HEK293 and CHO mammalian cell lines
- 6L working volume for protein expression in insect cells
- Up to 36L of expression per shaker
- Scalable system from 125mL to 7L flask sizes
- Spouted Flasks & Transfer Cap for scaling to Bioreactors

Fill Volume & Shake Speeds

Mammalian & Hybridoma Cells

Flask Size	Fill Volume	Working RPM Range	Vol./Size Ratio
7L	2.8 - 5L	140-150 (1" 2.54cm)/110 (2" 5.08cm)	40-70%

Insect Cells

Flask Size	Fill Volume	Working RPM Range	Vol./Size Ratio
7L	6L	135	40-70%



Thomson 7L Optimum Growth® Flask

No More Bags! Trade Your 10L, 20L & 30L Bags For 7L Flasks For Stable/Transient CHO Cells

5L-6L Working Volume = Up to 36L per Shaker!

Proprietary Customer Data

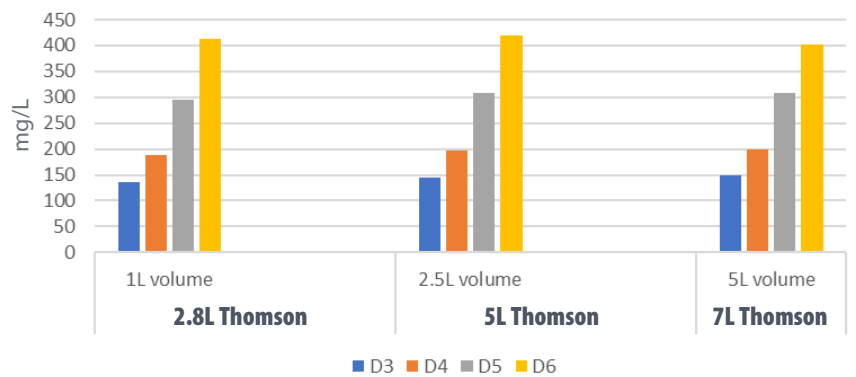


2.5L (Final Volume) **5L (Final Volume)**

Speed/Throw: 140 RPM with 25mm orbit
100 RPM with 50mm orbit

Starting volume was 4.2L, and feeds on day 3 400mL, and day 6-7 with 400mL.

CHOZN® Expression of IgG1 in Three Scales in Thomson Flasks



Scalable Protein Quality & Titer in Transient CHO Cells

Thomson is not affiliated with MilliporeSigma or their CHOZN® Cell Line

Thomson 7L Flasks Can Replace 10L Bags for HEK293

Genentech

A Member of the Roche Group

	Viable cell density at transfection*	Viability at transfection	Viable cell density at harvest	Viability at harvest	pO2 mmHg	Glutamate mmol/L
5L Thomson Flask (2L fill)	2.71	98	4.93	90.6	211.5	3.18
7L Thomson Flask (4L fill)	2.84	98.2	6.12	94.8	170	2.99

	Glucose g/L	Ammonia mmol/L	Lactate g/L	pH
5L Thomson Flask (2L fill)	3.44	2.02	0.99	7.21
7L Thomson Flask (4L fill)	2.76	1.9	0.83	7.17

Head-to-head 8L expressions:

4x5L Thomson Flask (2L fill)

2x7L Thomson Flask (4L fill)

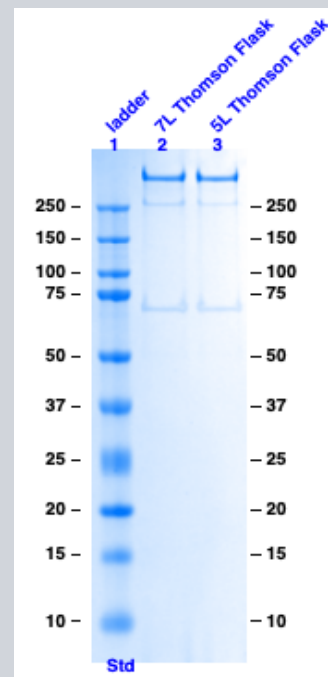
Flasks for each was pooled and a QC sample was analyzed via affinity purification. Eluate was run on SDS to assess purity and size.

Cells harvested at 48hrs post transfection.

*Non-Antibody Proteins

Results show good purity and expected range of expression.

Thomson is not affiliated with Genentech/Roche



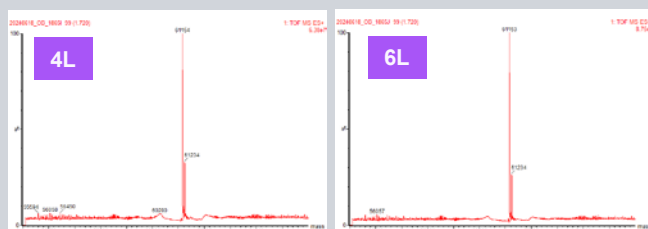
Get 50% More Volume in Same Space! Up to 6L Protein Expression in SF21 Cells

Pfizer

Structural Biology and Protein Sciences



Results show expected purity and range of expression.



Traditional 5L Flask

Thomson 7L Flask

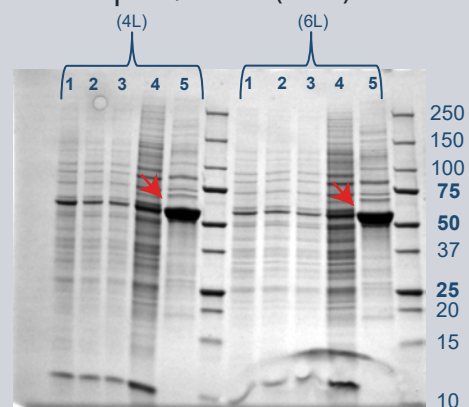
Intact LC/MS (Sequence MW: 61,245 Da)

Soluble, purified protein yield
(Bradford Protein Concentration Assay):

4L – 12 mg/L

6L – 13 mg/L

Protein of Interest - Affinity
Capture/Elution (IMAC)



1. Whole Cell
2. Soluble
3. IMAC - Flow-through
4. IMAC - Wash
5. IMAC - Eluate

→ = Target Protein

SDS-PAGE Reducing Gel

**Thomson 7L Increased Titer by
8%/L on Hard Target!**

Thomson is not affiliated with Pfizer



Optimum Growth® 7L Flask
Scale Consistently Across All Sizes

Part # 931117



Bidirectional Transfer Cap
For Optimum Growth® 7L Flask

Part # 931470-8