

## 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

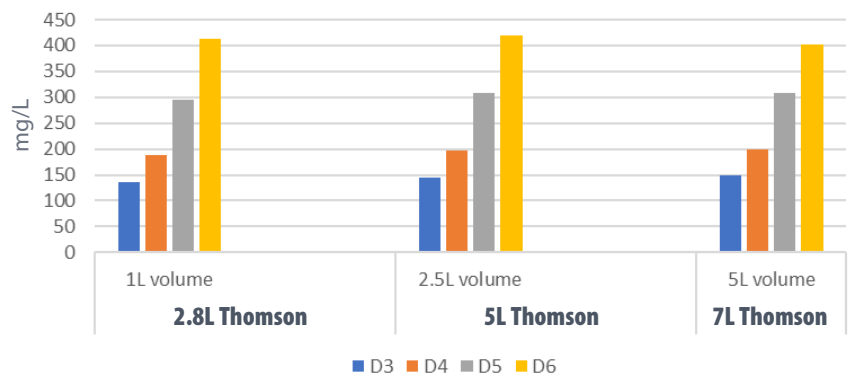


**2.5L (Final Volume)**      **5L (Final Volume)**

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	pO <sub>2</sub> 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)

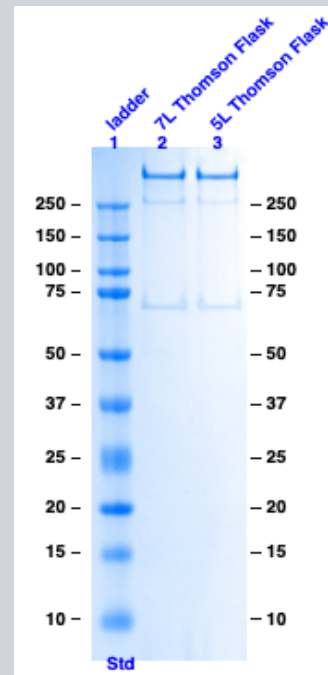
Flasks for each was pooled and a QC sample was analyzed via affinity purification. Eluate was run on SDS to assess purity and size.

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



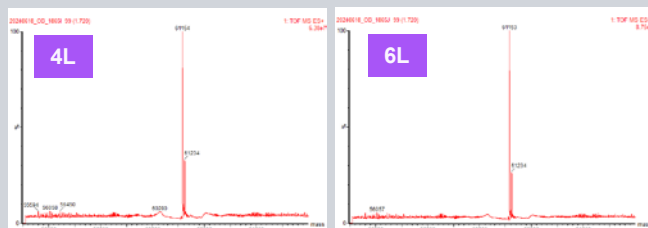
## Get 50% More Volume in Same Space! Up to 6L Protein Expression in SF21 Cells

**Pfizer**

Structural Biology and Protein Sciences



Results show expected purity and range of expression.



Traditional 5L Flask

Thomson 7L Flask

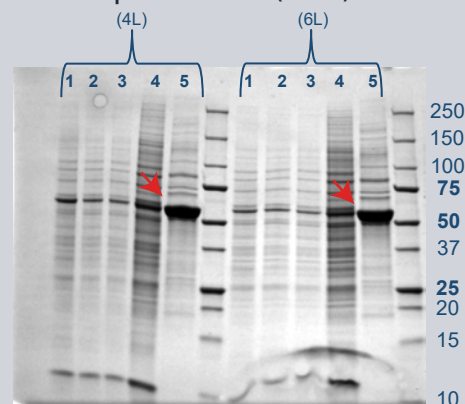
Intact LC/MS (Sequence MW: 61,245 Da)

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



**Optimum Growth® 7L Multiport Flask**  
2' of ID 1/8" Transfer Tubing & Sampling Port

Part # 931117-55-18



**Optimum Growth® 7L Multiport Flask**  
2' of ID 1/4" Transfer Tubing & Sampling Port

Part # 931117-55-14