

**DATA  
REPORT**



# Stable cell line development

Enter large-scale biopharmaceutical  
production with confidence



**High-yield, Royalties-free,  
monoclonality guaranteed.**

# Achieve record levels of productivity

## CASE STUDY

### I. GENE SYNTHESIS, SUBCLONING, AND TRANSIENT EXPRESSION

Transient transfection in CHO-K1 cells (30 ml) and purification using protein A resin.

Yield: 6 mg/L | Quantity produced: 0.18 mg | Purity >90%

A final QC was performed by reduced and non-reduced PAGE analysis confirming the integrity of the antibody

### II. DEVELOPMENT OF STABLE-TRANSFECTED POOLS

Construction of **stable expression vectors** followed by vector linearization and transfection.

Selection in the presence of MSX

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Top 3 Positively-transfected stable pools were further characterized in fed-batch experiments. **SEC-HPLC** analysis confirmed all antibodies have high purity and exhibit no aggregation.

| Pool ID | Quantity (mg) | Yield (mg/L) | Purity  |
|---------|---------------|--------------|---------|
| 1       | 42.7          | 1423.0       | ~100%   |
| 2       | 38.2          | 1273.3       | ~100%   |
| 5       | 45.9          | 1530.0       | ~100.0% |

### III. PRODUCTION AND PURIFICATION SCALE-UP

1L fed-batch production was carried out in 3L flasks  
Purification was performed using protein A resin.

**2417 mg/L >95% purity**

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## CASE STUDY

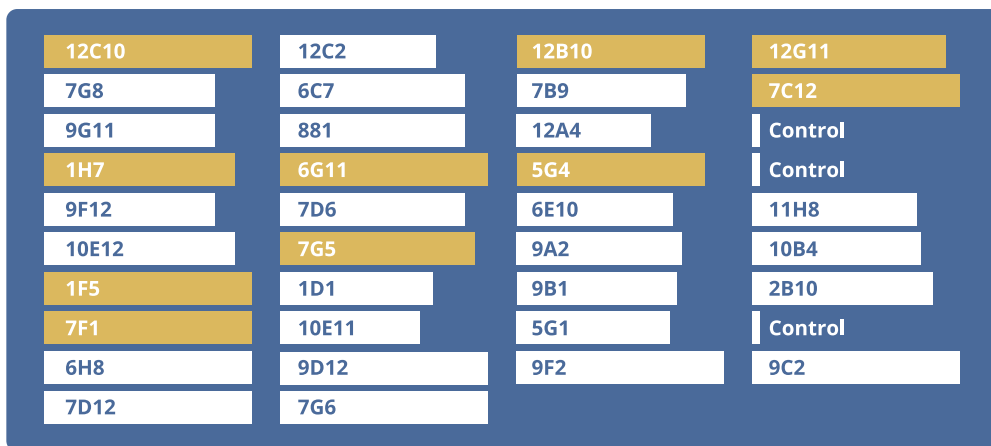
### IV. ISOLATION AND SCREENING OF STABLE MONOCLONES

Monoclones were isolated using VIPS™ technology in 96-well plates and expression evaluation was performed with ELISA with anti-Fc antibodies.

Monoclonality validation and growth assessment

**35** Best performing clones

Best monoclones were evaluated by SDS-PAGE and ELISA (Fc-antibody). ELISA data (below) revealed **10 monoclones** with high expression levels.



Bar length represents intensity obtained in ELISA, numbers represent the clone ID

### V. EVALUATION OF STABLE MONOCLONES

| Clone ID    | 12C10 | 12B10 | 12G11 | 7C12 | 1H7  | 6G11 | 5G4  | 7G5  | 1F5  | 1F1  |
|-------------|-------|-------|-------|------|------|------|------|------|------|------|
| Yield (g/L) | 3.75  | 2.99  | 3.98  | 4.02 | 1.83 | 4.82 | 0.51 | 3.87 | 3.92 | 0.56 |

Monoclones 6G11, 7C12, 12G11, 1F5 maintained good stability and viability in subsequent tests.

### VI. SCALE-UP PRODUCTION

Monoclonal 6G11 was used for scale-up and achieved excellent yields with optimized culture conditions.

**8.35 g/L >99% purity**



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