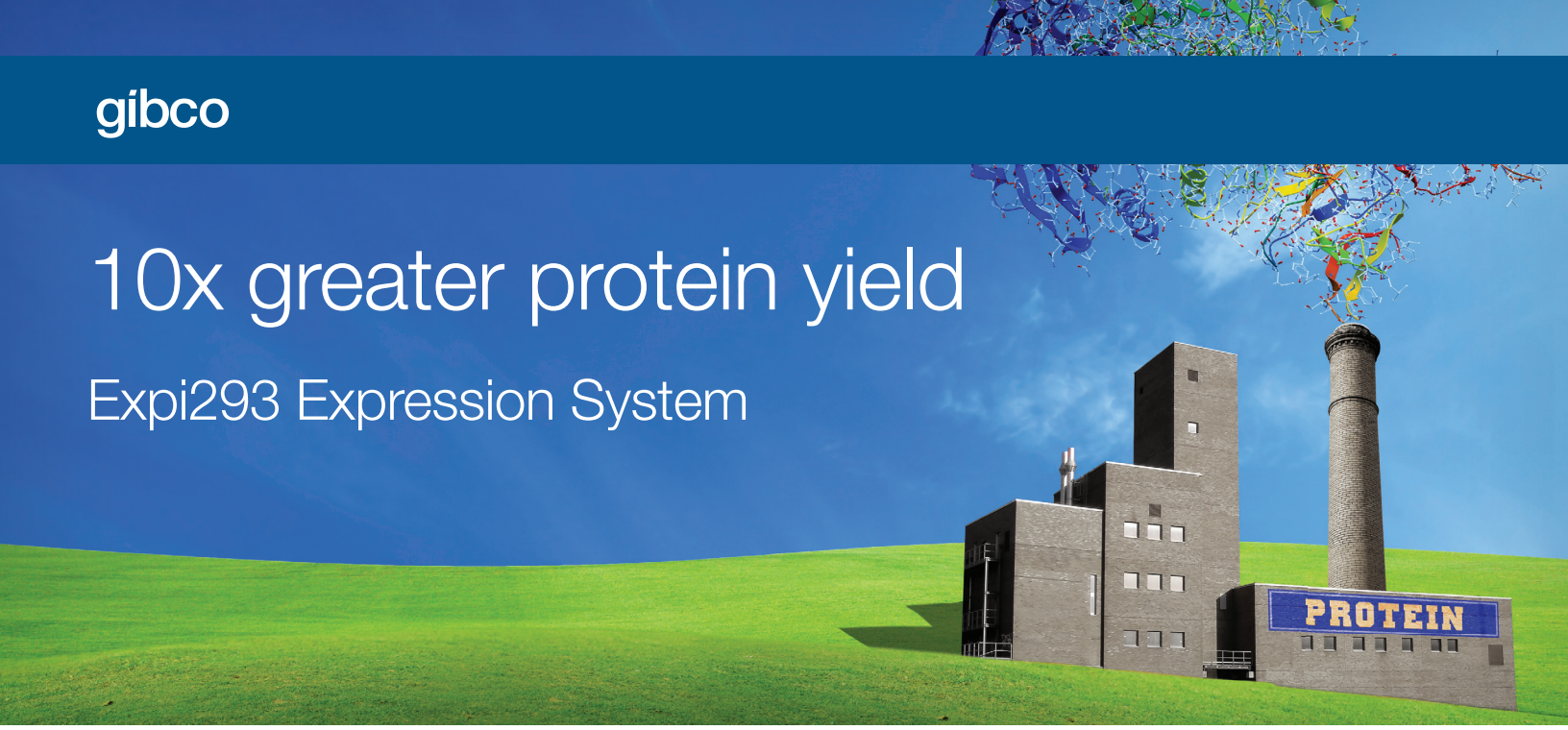
gibco

10x greater protein yield

Expi293 Expression System



> In all my years working with transient expression systems, the Expi293™ Expression System is the first one to achieve 2.3g/L, beating every other HEK 293 transient expression system.
>
> —Jelte-Jan Reitsma, Research Associate

The Expi293 Expression System features:

- Higher transfection efficiency.
- Up to 10x greater protein yield.
- Improved cell viability.
- Smaller culture volumes.

The Gibco™ Expi293™ Expression System is a major advancement in transient expression technology for rapid and ultrahigh-yield protein production in mammalian cells. It is based on the high-density culture of Expi293F™ Cells in the Expi293™ Expression Medium. Transient expression is powered by the cationic, lipid-based ExpiFectamine™ 293 transfection reagent in combination with optimized transfection enhancers. All these components work in concert to generate 2- to 10-fold higher protein yields than conventional culture systems such as the Invitrogen™ FreeStyle™ 293 Expression System. Expression levels of greater than 1g/L were achieved for IgG and non-IgG proteins (Figure 1).

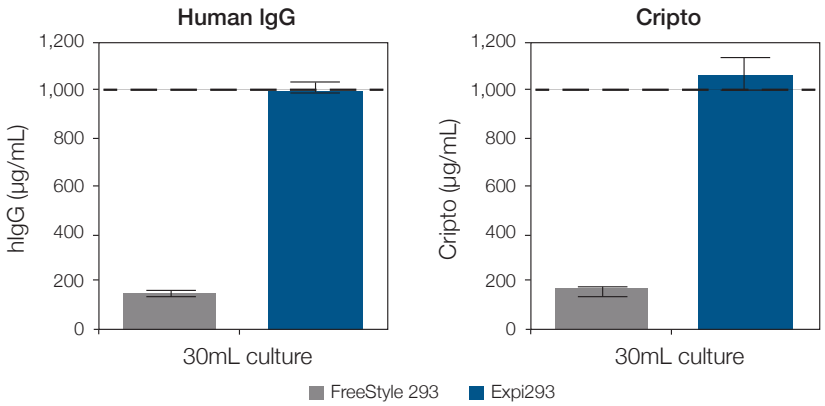


Figure 1. Expression of Fc-tagged Cripto protein achieves expression levels of over 1g/L in the Expi293 Expression System.

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Yields of various proteins using the Expi293 Expression System

Definition	Gene	Accession number	Expi293 yield (mg/L)
Pleckstrin, mRNA (cDNA clone MGC:17111 IMAGE:4341823), complete cds	PLEK	AAH18549.1	5,610
Signal transducer and activator of transcription 3 (acute-phase response factor) (STAT3), transcript variant 1, mRNA	STAT3	NP_644805.1	2,139
BH3 interacting domain death agonist (BID), transcript variant 2, mRNA	BID	NP_001187.1	972
RAB38, member RAS oncogene family (RAB38), mRNA	RAB38	NP_071732.1	702
S100 calcium binding protein A4 (S100A4), transcript variant 1, mRNA	S100A4	NP_002952.1	609
NAD(P)H dehydrogenase, quinone 1 (NQO1), transcript variant 1, mRNA	NQO1	NP_000894.1	525
Prosaposin (PSAP), transcript variant 1, mRNA	PSAP	NP_002769.1	524
Transcription factor AP-2 alpha (activating enhancer binding protein 2 alpha) (TFAP2A), transcript variant 2, mRNA	TFAP2A	NP_001027451.1	478
TH1-like (Drosophila), mRNA (cDNA clone MGC:22971 IMAGE:4860894), complete cds	NELFCD	AAH14952.1	411
Growth factor receptor-bound protein 2 (GRB2), transcript variant 1, mRNA	GRB2	NP_002077.1	333
Inhibitor of DNA binding 1, dominant negative helix-loop-helix protein (ID1), transcript variant 1, mRNA	ID1	NP_002156.2	295
S100 calcium binding protein A6 (S100A6), mRNA	S100A6	NP_055439.1	246
Epidermal growth factor receptor (EGFR), transcript variant 3, mRNA	EGFR	NP_958440.1	206
Integrin-linked kinase (ILK), transcript variant 2, mRNA	ILK	NP_001014794.1	199
S100 calcium binding protein P (S100P), mRNA	S100P	NP_005971.1	197
Methylthioadenosine phosphorylase, mRNA (cDNA clone MGC:33067 IMAGE:4820938), complete cds	MTAP	AAH26106.1	182
Ornithine aminotransferase (OAT), nuclear gene encoding mitochondrial protein, transcript variant 1, mRNA	OAT	NP_000265.1	179
Chromosome 12 open reading frame 57 (C12orf57), mRNA	C12orf57	NP_612434.1	175

Definition	Gene	Accession number	Expi293 yield (mg/L)
Tumor suppressor candidate 4, mRNA (cDNA clone MGC:22898 IMAGE:4068981), complete cds	NPRL2	AAH21984.1	175
N-myc downstream regulated 1 (NDRG1), transcript variant 2, mRNA	NDRG1	NP_006087.2	162
MutS homolog 2, colon cancer, nonpolyposis type 1 (*E. coli*) (MSH2), transcript variant 1, mRNA	MSH2	NP_000242.1	159
Calreticulin (CALR), mRNA	CALR	NP_004334.1	148
Major vault protein (MVP), transcript variant 2, mRNA	MVP	NP_005106.2	139
Mitogen-activated protein kinase kinase 4, mRNA (cDNA clone MGC:33126 IMAGE:5272439), complete cds	MAP2K4	AAH36032.1	138
X-ray repair complementing defective repair in Chinese hamster cells 3, mRNA (cDNA clone MGC:19630 IMAGE:4138588), complete cds	XRCC3	AAH11725.1	138
Budding uninhibited by benzimidazoles 1 homolog beta (yeast), mRNA (cDNA clone MGC:31884 IMAGE:4649881), complete cds	BUB1B	AAH18739.1	135
GNAS complex locus (GNAS), transcript variant 3, mRNA	GNAS	NP_536351.1	125
CD4 molecule (CD4), transcript variant 1, mRNA	CD4	NP_000607.1	108
Tumor protein p53, mRNA (cDNA clone MGC:646 IMAGE:3544714), complete cds	TP53	AAH03596.1	100
HNF1 homeobox A (HNF1A), mRNA	HNF1A	NP_000536.5	84
Sulfotransferase family 1E, estrogen-preferring, member 1, mRNA (cDNA clone MGC:34459 IMAGE:5210178), complete cds	SULT1E1	AAH27956.1	79
Chitinase 3-like 1 (cartilage glycoprotein-39), mRNA (cDNA clone MGC:17199 IMAGE:4212419), complete cds	CHI3L1	AAH38354.1	76
C-src tyrosine kinase (CSK), transcript variant 1, mRNA	CSK	NP_004374.1	72
Thrombomodulin, mRNA (cDNA clone MGC:45302 IMAGE:5176531), complete cds	THBD	AAH35602.2	71

Ordering information

Product	Cat. No.
Expi293 Expression System Kit	A14635
Expi293 Expression Medium, 1,000mL	A1435101
Expi293F Cells, 1mL	A14527
ExpiFectamine 293 Transfection Kit, for 1L of culture	A14524

To see the full list of expression data or more information, go to **thermofisher.com/expi293**

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