

## AP2 Gamma/TFAP2C Protein, Human, Recombinant (His)

### General Information

Synonyms:	ERF1;hAP-2g;transcription factor AP-2 gamma (activating enhancer binding protein 2 gamma);transcription factor AP-2 $\gamma$ (activating enhancer binding protein 2 $\gamma$ );AP2 $\gamma$ /TFAP2C; AP2-GAMMA;TFAP2G;AP2- $\gamma$
Protein Construction:	A DNA sequence encoding the mature form of human TFAP2C (Q92754) (Leu128-Val223) was expressed with a polyhistide tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	Q92754
Molecular Weight:	12.3 kDa (predicted); 12-14 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 98 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

Reconstitution:	A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

TFAP2C, also known as AP2-GAMMA, is a member of the activating protein 2 family of transcription factors. AP-2 factors bind to the consensus sequence 5'-GCCNNGGC-3' and activate genes involved in a large spectrum of important biological functions including proper eye, face, body wall, limb and neural tube development. They also

suppress a number of genes including MCAM/MUC18, C/EBP alpha and MYC. TFAP2C may be prognostic indicators for patients with breast tumors. TFAP2C gene has been tested for association to diseases (Breast Neoplasms; Carcinoma) and proposed to participate in processes (cell-cell signaling, male gonad development, regulation of transcription from RNA polymerase II promoter). Proteins are expected to have molecular functions (DNA binding, protein binding, protein dimerization activity, transcription factor activity) and to localize in various compartments (membrane, nucleus).

### Reference

- Woodfield GW, et al. (2009) Interaction of TFAP2C with the estrogen receptor-alpha promoter is controlled by chromatin structure. *Clin Cancer Res.* 15 (11): 3672-9.
- Zhao C, et al. (2003) Elevated expression levels of NCOA3, TOP1, and TFAP2C in breast tumors as predictors of poor prognosis. *Cancer.* 98 (1): 18-23.
- Woodfield GW, et al. (2007) TFAP2C controls hormone response in breast cancer cells through multiple pathways of estrogen signaling. *Cancer Res.* 67 (18): 8439-43.
- Penna E, et al. (2011) microRNA-214 contributes to melanoma tumour progression through suppression of TFAP2C. *EMBO J.* 30 (10): 1990-2007.
- Woodfield GW, et al. (2010) Identification of primary gene targets of TFAP2C in hormone responsive breast carcinoma cells. *Genes Chromosomes Cancer.* 49 (10): 948-62.

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