

## STAT1 Protein, Human, Recombinant

### General Information

Synonyms:	Transcription Factor ISGF-3 Components p91/p84;STAT1;Signal Transducer and Activator of Transcription 1-Alpha/Beta;Signal Transducer and Activator of Transcription 1- $\alpha$ / $\beta$ ;Signal Transducer and Activator of Transcription 1- $\alpha$ /Beta
Protein Construction:	Met1-Val712
Species:	Human
Expression Host:	E. coli
Accession:	P42224
Molecular Weight:	85 KDa (reducing condition)
AA Sequence:	Met1-Val712

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 68% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/ $\mu$ g (1 EU/ $\mu$ g) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing 20 mM PB, 0.02% Tween 80, 5% Sucrose, 4% Mannitol, pH 7.4.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100  $\mu$ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

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.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Signal Transducer and Activator of Transcription 1-Alpha/Beta (STAT1) contains one SH2 domain and belongs to the transcription factor STAT family. When tyrosine- and serine-phosphorylated, STAT1 can form a homodimer termed IFN-gamma-activated factor (GAF), migrate into the nucleus and bind to the IFN gamma activated

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sequence (GAS) to drive the expression of the target genes, inducing a cellular antiviral state. STAT1 functions as a signal transducer and transcription activator that mediates cellular responses to interferons. Defects in STAT1 are the cause of STAT1 deficiency complete and familial candidiasis type 7.

### Reference

Orlistat facilitates immunotherapy via AKT-FOXO3a-FOXM1-mediated PD-L1 suppression

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