RayBiotech, Inc.
3607 Parkway Lane suite 200
Norcross,GA 30092
Tel: 770-729-2992, 1-888-494-8555
Fax: 770-206-2393
Website: www.raybiotech.com
Email: info@raybiotech.com

Certificate of Analysis and Data Sheet

Recombinant Human STAT1

Catalog No.	**Source:**
228-11462	*Escherichia Coli.*

Synonyms
Signal transducer and activator of transcription 1-alpha/beta, Transcription factor ISGF-3 components p91/p84, STAT1, ISGF-3, STAT91, DKFZp686B04100.

Introduction
STAT1 is a member of the Signal Transducers and Activators of Transcription family of transcription factors. STAT1 is involved in upregulating genes due to a signal by either type I, type II or type III interferons. In response to IFN-γ stimulation, STAT1 forms homodimers or heterodimers with STAT3 that bind to the GAS (Interferon-Gamma Activated Sequence) promoter element; in response to either IFN-α or IFN-β stimulation, STAT1 forms a heterodimer with STAT2 that can bind the ISRE (Interferon Stimulated Response Element) promoter element. In either case, binding of the promoter element leads to an increased expression of ISG (Interferon Stimulated Genes).

Description
STAT1 Human Recombinant produced in E.Coli is a non-glycosylated polypeptide chain having a molecular mass of 90 kDa. This protein is the full-length form of the protein with an amino-terminal His-tag.
The STAT1 is purified by proprietary chromatographic techniques.

Physical Appearance
Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation
Lyophilized protein with no additives.

Stability
Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time.
Avoid multiple freeze-thaw cycles.

Purity
Greater than 95.0% as determined by SDS-PAGE.

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Unit Definition

Recombinant human STAT1 is phosphorylatable in vitro, using either immunoprecipitated JAK1 or JAK2, or whole cell extracts derived from interferon--stimulated HEK 293 cells. This phosphorylation can be monitored by Western blot analysis using phosphorylation site specific antibody directed to STAT [pY701], in conjunction with chemiluminescence detection methods. Optimization of the cell stimulation protocol, cell lysis procedure, and reaction conditions may be required for each specific application.