

# Recombinant Human Signal Transducer And Activator Of Transcription 3

Cat. No. STAT3-73H Lot. No. (See product label)

## SPECIFICATION

### Product Overview

Recombinant Human STAT3 encoding 50-240aa expressed in *E.coli*. The Stat3 protein is transcription factor expressed in most cell types and is activated by multiple cytokines and growth factors including: IFN- $\alpha$ , IL-10, IL-6, IL-11, IL-12, IL-2, EGF etc.

### Species

Human

### Source

*E.coli*

### Protein Length

50-240 a.a.

### Description

STAT3 is tyrosine-phosphorylated and activated by a number of kinases. The binding of IL-6 family cytokines (including IL-6, oncostatin M and leukemia inhibitory factor) to the gp130 receptor triggers STAT3 phosphorylation by JAK2. EGF-R and certain other receptor tyrosine kinases, such as c-MET phosphorylate STAT3 in response to their ligands. STAT3 is also a target of the c-src non-receptor tyrosine kinase. STAT3-deficient mouse embryos can not develop beyond embryonic day 7 (E7.0), when gastrulation initiates. It appears that at these early stages of development, STAT3 activation is required for self-renewal of embryonic stem cells (ESCs). Indeed, LIF, which is supplied to ESC cultures to maintain their undifferentiated state, can be omitted if STAT3 is activated through some other means. Constitutive STAT3 activation is associated with various human cancers and commonly suggests poor prognosis. It has anti-apoptotic as well as proliferative effects.

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|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Amino Acid Sequence</b>                 | MGFWEEFESLQKQEVKNLHQRLEGQRPENKGKNRYKNILPFDHSRVLQGRDSNIP<br>GSDYINANYIKNQLLGPDENAKTYIASQGCGLEATVNDFWQMAWQENS RVIVMTTRE<br>VEKGRNKCVPYWPEVGMQRAYGPYSVTNCGEHD TTEYKLRTLQVSPLDNGDLIREI<br>WHYQYLSWPDHGV PSEPGGVLSFLDQINQRQESLP HAGPIIVHCSAGIGRTGTIIVID<br>MLMENISTKGLDCDIDIQKTIQMVRAQRSGMVQTEAQYKFIYVAIAQFIETTKKKLEVL<br>QSQKGQSEYGNITY |
| <b>Physical Appearance</b>                 | Sterile Filtered clear solution.                                                                                                                                                                                                                                                                                                    |
| <b>Purity</b>                              | Greater than 95% as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                         |
| <b>Formulation</b>                         | STAT3 at 50µg/ml in 50mM Tris-Acetate, pH7.5, 1mM EDTA, 20% Glycerol without BSA and Sodium Azide.                                                                                                                                                                                                                                  |
| <b>Application And Suggested Dilutions</b> | • ELISA • Inhibition Assays • Western Blotting                                                                                                                                                                                                                                                                                      |
| <b>Characterization</b>                    | On SDS-PAGE commassie blue stained gel, the purified recombinant protein shows a band at 49 kDa.                                                                                                                                                                                                                                    |
| <b>Activity</b>                            | Not known.                                                                                                                                                                                                                                                                                                                          |
| <b>Storage</b>                             | 1 week at 14°C. For longer periods of time store vial at -20°C to -80°C. When stored at the recommended temperature, this protein is stable for 12 months. Avoid multiple freeze-thaw cycles.                                                                                                                                       |
| <b>GENE INFORMATION</b>                    |                                                                                                                                                                                                                                                                                                                                     |
| <b>Gene Name</b>                           | STAT3 signal transducer and activator of transcription 3 (acute-phase response factor) [ Homo sapiens ]                                                                                                                                                                                                                             |

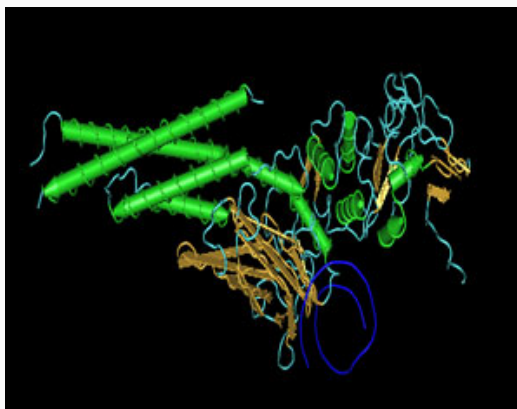
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|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Synonyms</b>            | STAT3; signal transducer and activator of transcription 3 (acute-phase response factor); APRF; HIES; FLJ20882; MGC16063; signal transducer and activator of transcription 3; DNA-binding protein APRF; acute-phase response factor                                                                                              |
| <b>Gene ID</b>             | <a href="#">6774</a>                                                                                                                                                                                                                                                                                                            |
| <b>mRNA Refseq</b>         | <a href="#">NM_003150</a>                                                                                                                                                                                                                                                                                                       |
| <b>Protein Refseq</b>      | <a href="#">NP_003141</a>                                                                                                                                                                                                                                                                                                       |
| <b>MIM</b>                 | <a href="#">102582</a>                                                                                                                                                                                                                                                                                                          |
| <b>UniProt ID</b>          | <a href="#">P40763</a>                                                                                                                                                                                                                                                                                                          |
| <b>Chromosome Location</b> | 17q21                                                                                                                                                                                                                                                                                                                           |
| <b>Pathway</b>             | Acute myeloid leukemia; Adipocytokine signaling pathway; Chemokine signaling pathway; Jak-STAT signaling pathway; Pancreatic cancer; Pathways in cancer; Signaling by PDGF; Signalling by NGF                                                                                                                                   |
| <b>Function</b>            | calcium ion binding; hematopoietin/interferon-class (D200-domain) cytokine receptor signal transducer activity; protein dimerization activity; protein kinase binding; sequence-specific DNA binding; signal transducer activity; transcription activator activity; transcription factor activity; transcription factor binding |

PDB rendering based  
on 1bg1.



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