

PRODUCT INFORMATION



IRF3 (S386A, S396A mutant; human, recombinant)

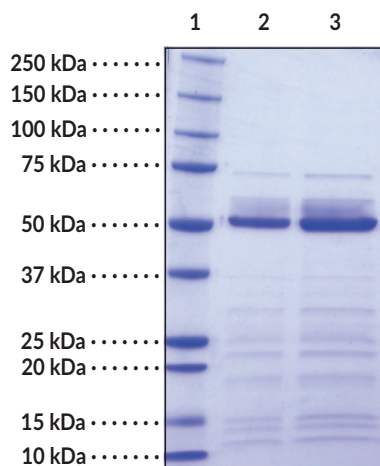
Item No. 23590

Overview and Properties

Synonym: Interferon Regulatory Factor 3
Source: N-terminal His-tagged human IRF3 (S386A, S396A mutant) expressed in *E. coli*
Amino acids: 1-427 (full length)
Molecular Weight: 49.3 kDa
Storage: -80°C (as supplied); avoid freeze/thaw cycles by aliquoting protein
Stability: ≥1 year
Purity: ≥75% estimated by SDS-PAGE
Supplied in: 50 mM HEPES, pH 8.0, with 150 mM sodium chloride and 10% glycerol
Protein Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: IRF3 (S386A, S396A mutant) (2 µg)
Lane 3: IRF3 (S386A, S396A mutant) (4 µg)

Representative gel image shown; actual purity may vary between each batch.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

IFR3 (S386A, S396A mutant; human recombinant) contains amino acids corresponding to human IRF3 (Item No. 22811) with alanine substituted for serine at positions 386 and 396. Interferon regulatory factor 3 (IRF3) is a member of the IRF family that plays a crucial role in activation of innate immunity and inflammation in response to viral infection, functioning as a molecular switch for antiviral activity.¹⁻⁵ Double-stranded RNA generated during a viral infection leads to IRF3 activation through serine/threonine phosphorylation by TBK1 (Item No. 22817) or IKK ϵ (IKBKE) kinases, which induces a conformational change leading to its dimerization, nuclear localization, and association with CREB binding protein (CREBBP)/p300.^{1,2,4,6} The complex formed by this association, known as DRAFI, activates transcription of interferon α (IFN- α) and IFN- β as well as other IFN-induced genes, which play a critical role in the type 1 IFN-dependent immune response.^{1,5,6} Various serine residues have been implicated in IRF3 activation, including S386 and S396.⁷ TBK1 and IKK ϵ phosphorylation of IRF3 is decreased when serine is replaced with alanine at positions 396, 398, 402, and 405 and with threonine at position 404. Phosphorylation of S386 is essential for IRF3 oligomerization and binding to p300, and phosphorylation of S396, T390, and either S385 or S386 occurs following Sendai viral infection in HEK293 cells.^{8,9}

References

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