

ERCC3 Protein, Human, Recombinant (GST)

General Information

Synonyms:	DNA 3'-5' helicase/translocase XPB;XPBC;TFIIH subunit XPB;TFIIH basal transcription factor complex 89 kDa subunit (TFIIH 89 kDa subunit;TFIIH p89);Xeroderma pigmentosum group B-complementing protein;XPB;General transcription and DNA repair factor IIH helicase/translocase subunit XPB;DNA repair protein complementing XP-B cells;DNA excision repair protein ERCC-3;ERCC3;Basic transcription factor 2 89 kDa subunit (BTF2 p89)
Protein Construction:	1-782 aa
Species:	Human
Expression Host:	E. coli
Accession:	P19447
Molecular Weight:	115.6 kDa (predicted)
AA Sequence:	MGKRDRADRDKKSRSKRHYEDEEDDEEDAPGNDPQEAVPSAAGKQVDESGTKVDEYGAKDYRLQMPLKD DHTSRPLWVAPDGHIFLEAFSPVYKYAQDFLVAIAEPCRPVHVHEYKLTAYSLEYAAVSVGLQTS DITEYLRKL SKTGVPDGMQFIKLVSYGKVKLVKHNRYFVESCHPDVVIQHLLQDPVIRECRLRNSEGEATELITETFTSKSA ISKTAESSGGPSTSRVTDPPQKSDIPMDLDFDFYEQMDKDEEEEEETQTVSFEVKQEMIEELQKRCIHLEYPLLA EYDFRNDVNPDIINIDLKPTAVLRPYQEKSLRKMFGNGRARSVIVLPCGAGKSLVGVTA ACTVVRKRLV L GNS AVSVEQWKAQFKMWSTIDDSQICRFTSDAKDKPIGCSVAISTYSMLGHTTKRSWEAERVMEWLKTQEWGLMI LDEVHTIPAKMFRRVLTIVQAHCKLGLTATLVREDDKIVDLNFLIGPKLYEANWMELQNNGYIAKVQCAEVWC PMSPEFYREYVAIKTKRILLYTMNPNKFRACQFLIKFHERRNDKIIVFADNVFALKEYAIRLNKPYIYGPTSQGE RMQILQNFKHNPKINTIFISKVGDTSFDLPEANVLIQISSHGGSSRRQEAQRLGRVLRRAKKG MVAEEYNAFFYSL VSQDTQEMAYSTKRQRFLVDQGYSFVITKLAGMEEEDLAFSTKKEEQQLLQKVLAAATDLDAEEEVVAGEFG SRSSQASRRFGTMSMSGADDTVYMEYHSSRSKAPSKHVHPLFKRFRK

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:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μg/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

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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

ATP-dependent 3'-5' DNA helicase, component of the general transcription and DNA repair factor IIH (TFIIH) core complex, which is involved in general and transcription-coupled nucleotide excision repair (NER) of damaged DNA and, when complexed to CAK, in RNA transcription by RNA polymerase II. In NER, TFIIH acts by opening DNA around the lesion to allow the excision of the damaged oligonucleotide and its replacement by a new DNA fragment. The ATPase activity of XPB/ERCC3, but not its helicase activity, is required for DNA opening. In transcription, TFIIH has an essential role in transcription initiation. When the pre-initiation complex (PIC) has been established, TFIIH is required for promoter opening and promoter escape. The ATP-dependent helicase activity of XPB/ERCC3 is required for promoter opening and promoter escape. Phosphorylation of the C-terminal tail (CTD) of the largest subunit of RNA polymerase II by the kinase module CAK controls the initiation of transcription.

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