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Anti-ERCC3 / XPB Antibody

Rabbit Anti Human Polyclonal Antibody
Catalog # ALS18162

Product Information

Application	WB, IHC-P
Primary Accession	P19447
Predicted	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	89278

Additional Information

Gene ID	2071
Alias Symbol	ERCC3
Other Names	ERCC3, BTF2, GTF2H, RAD25, TFIIH p89, TFIIH, XPB, BTF2 p89, XPBC, TFIIH 89 kDa subunit
Target/Specificity	Human ERCC3 / XPB
Reconstitution & Storage	Affinity purified
Precautions	Anti-ERCC3 / XPB Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ERCC3 {ECO:0000303|PubMed:2111438}
Function	ATP-dependent 3'-5' DNA helicase/translocase (PubMed: 17466626, PubMed:27193682, PubMed:33902107, PubMed:8465201, PubMed:8663148). Binds dsDNA rather than ssDNA, unzipping it in a translocase rather than classical helicase activity (PubMed:27193682, PubMed:33902107). Component of the general transcription and DNA repair factor IIH (TFIIH) core complex (PubMed:10024882, PubMed:17466626, PubMed:8157004, PubMed:8465201). When complexed to CDK-activating kinase (CAK), involved in RNA transcription by RNA polymerase II. The ATPase activity of XPB/ERCC3, but not its helicase activity, is required for DNA opening; it may wrap around the damaged DNA wedging it open, causing localized melting that allows XPD/ERCC2 helicase to anchor (PubMed:10024882, PubMed:17466626). In transcription, TFIIH has an essential role in transcription initiation (PubMed:30894545, PubMed:8157004). When the pre-initiation complex (PIC) has been established, TFIIH is required for promoter opening and promoter escape

(PubMed:8157004). The ATP-dependent helicase activity of XPB/ERCC3 is required for promoter opening and promoter escape (PubMed:10024882). In transcription pre-initiation complexes induces and propagates a DNA twist to open DNA (PubMed:27193682, PubMed:33902107). Also involved in transcription-coupled nucleotide excision repair (NER) of damaged DNA (PubMed:17466626, PubMed:2111438, PubMed:8157004). 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 structure of the TFIIH transcription complex differs from the NER-TFIIH complex; large movements by XPD/ERCC2 and XPB/ERCC3 are stabilized by XPA (PubMed:31253769, PubMed:33902107). XPA retains XPB/ERCC3 at the 5' end of a DNA bubble (mimicking DNA damage) (PubMed:31253769).

Cellular Location Nucleus.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.