

**Product Name:** DCAF16/DDB1

**Alternate Names:** DCAF16 (DDB1- and CUL4-associated factor 16)

**Product Code:** TE3-024

**Quantity:** 25 µg

**FOR RESEARCH USE ONLY (RUO)**

**Storage:**

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.  
Aliquot and store ≤ -70°C.

**Verified Applications / Usage**

**Physical Characteristics**

**Species:** Homo sapiens (Human)

**Predicted MW (kDa):** 27 kDa  
(DCAF16) / 131 kDa (DDB1)

**Source:** Sf9 (S. frugiperda)

**Purity:** 90%

**Concentration:** 5-15 µM

**Formulation:** 40 mM HEPES, 100 mM NaCl, 10% Glycerol, 1 mM EDTA, 1 mM TCEP, pH 7.6

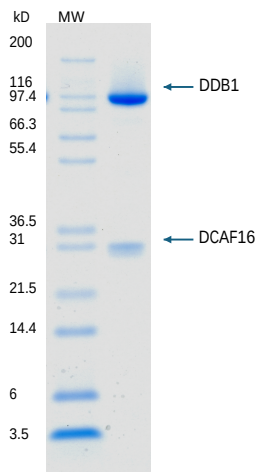
**Shipping:** The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.

**Stability/Storage:** Use a manual defrost freezer and avoid repeated freeze-thaw cycles. Aliquot and store ≤ -70°C.

## Quality Assurance

### Purity & SDS-PAGE

**Protein ID:** DDB1- and CUL4-associated factor 16;DNA damage-binding protein 1



2 µg DDB1/DCAF16 run on 4-12% SDS-PAGE gel under reducing conditions, then visualized with Colloidal Coomassie Blue Stain.

### Activity Assay

Proximity Assay with BRD4 and dBET1

## Background

### Description

Cullin-RING ligase 4 (CRL4) complexes that incorporate DCAF16 act as nuclear-restricted E3 enzymes able to accept covalent or non-covalent recruiters at a tri-cysteine surface (C177-C179). Recombinant DCAF16/DDB1 provides a tractable test system for characterizing electrophilic PROTACs, molecular glues and linkage-specific ubiquitin assays aimed at degrading chromatin or transcription regulators. Recent cryo-EM analyses show DCAF16's eight-helix bundle docking on DDB1's  $\beta$ -propeller C, creating a shallow hydrophobic pocket that simultaneously engages BRD4 bromodomains when bridged by intramolecular glues. The combination of the DCAF/DDB1 heterodimer with the CUL4A/RBX1 heterodimer results in a functional recombinant E3 ligase heterotetramer. Recombinant DCAF16/DDB1 is therefore a versatile reagent for nuclear-restricted E3 ligase assays, covalent degrader profiling, or mechanistic studies dissecting CRL4-mediated ubiquitylation.

**Accession Number:**  
Q16531;Q9NXF7

**Entrez Gene ID:** DCAF16;DDB1

## Protein Sequence

MGHHHHHHHHGSENLYFQSGMGPRNPSPDHLSESESEEEEEENISYLN  
SSGEEWDSSEEEEDSMVPNLSPLESLAWQVKCLLKYSTTTWKPLNPNSW  
LYHAKLLDPSTPVHILREIGLRSLSHCSHCVPKLEPIPEWPPLASCGVPPF  
QKPLTSPSRLSRDHATLNGALQFATKQLSRTL SRATPIPEYLKQIPNSCV  
SGCCCGWLT KTVKETTRTEPINTTYSYTD FQKAVNKLLTASL;MWSHPQ  
FEKGGGSGGGSGGSAWSHPQFEKGSLEVL FQGPM SYNYVVTAQKPT  
AVNGCVTGHFTSAEDLNLLIAKNTRLEIYVVTAEGLRPVKEVGMYGKIAV  
MELFRPKGESKDLLFILTA KYNACILEYKQSGESIDIITRAHGNVQDRIGR  
PSETGIIGIIDPECRMIGLRLYDGLFKVIPLDRDNKELKAFNIRLEELHVID  
VKFLYGCQAPTICFVYQDPQGRHV KTYEVSLREKEFNKGPWKQENVE  
AEASMVIAVPEPFGGAIIGQESITYHNGDKYLAIAPPIIKQSTIVCHNRVD  
PNGSRYLLGDMEGRLFMLLLEKEEQMDGTVTLKDLRVELLGETSIAECL  
TYLDNGVV FVGSRLGDSQLV KLNVD SNEQGSYV VAMETFTNLGPVDM  
CVVDLERQGGQQLVTC SGAFKEGSLRIIRNGIGIHEHASIDLP GIKGLWP  
LRSDPNRETDDTLVLSFVGQTRVLMLNGEEVEETELMGFVDDQQTFFC  
GNVAHQQLIQITSASVRLVSQEPKALVSEWKEPQAKNISVASCNSSQVV  
VAVGRALYYLQIHPQELRQISHTEMEHEVACLDITPLGDSNGLSPLCAIG  
LWTDISARILKLPSFELLHKEMLGGEIIPRSILMTTFESSHYLLCALGDGA  
LFYFGLNIETGLLSDRKKVTLGTQPTVLR TFRSLSTTNVFACSDRPTVIY  
SSNHKLVFSNVNLKEVNYMCPLNSDGY PDSLALANNSTLTIGTIDEIQKL  
HIRTVP LYESPRKICYQEVSQC FGV LSSRIEVQDTSGGTALRPSASTQ  
ALSSSVSSSKLFSSSTAPHETSFGEEVEVHNLLIIDQHTFEVLHAHQFLQ  
NEYALSLVSCKLGKDPNTYFIVGTAMVYPEEAE PKQGRIVVFQYSDGKL  
QTVAEKEVKGAVYSMVEFNGKLLASINSTVRLYEWTTTEKELRTECNHY  
NNIMALYLKTKGDFILVGDLMRSVLLLAYKPMEGNFEEIARDFNPNWMS  
AVEILDDDNFLGAENAFNLFVCQKDSAATTDEERQHLQEVLGFLHGEF  
VNVFCHGSLVMQNLGETSTPTQGSVLFGTVNGMIGLVTSLSSESWYNLL  
LDMQNRLNKVIKSVGKIEHSFWRSFHTERKTEPATGFIDGDLIESFLDIS  
RPMQEVVANLQYDDGSGMKREATADDLIKVVEELTRIH