

# Product Datasheet

## ESCO2 Antibody - BSA Free NB100-87021

Unit Size: 100 ul

Store at 4C. Do not freeze.

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**NB100-87021**

ESCO2 Antibody - BSA Free

Product Information	
Unit Size	100 ul
Concentration	1.0 mg/ml
Storage	Store at 4C. Do not freeze.
Clonality	Polyclonal
Preservative	0.09% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	Tris-Citrate/Phosphate (pH 7.0 - 8.0)
Target Molecular Weight	68.3 kDa

Product Description	
Description	Novus Biologicals Rabbit ESCO2 Antibody - BSA Free (NB100-87021) is a polyclonal antibody validated for use in WB and IP. Anti-ESCO2 Antibody: Cited in 3 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	157570
Gene Symbol	ESCO2
Species	Human
Immunogen	The immunogen recognized by this antibody maps to a region between residue 200 and 250 of human establishment of cohesion 1 homolog 2 using the numbering given in entry NP_001017420.1 (GeneID 157570).

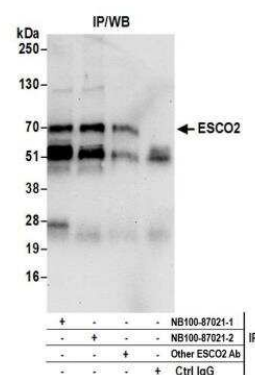
Product Application Details	
Applications	Western Blot, Immunoprecipitation
Recommended Dilutions	Western Blot 1:2000-1:10000, Immunoprecipitation 2-10 ug/mg lysate

**Images**

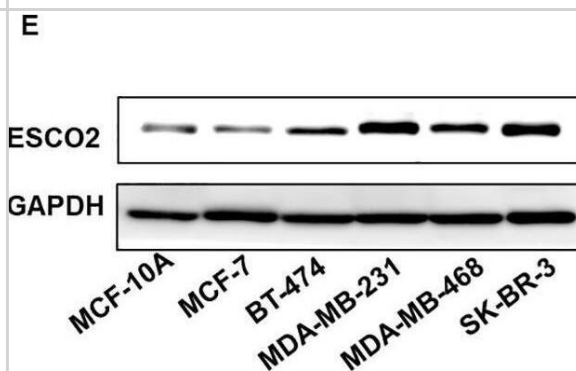
Western Blot: ESCO2 Antibody [NB100-87021] - Detection of Human ESCO2 by Western Blot. Samples: Whole cell lysate (50, 15, 5 ug) from HeLa cells prepared using NETN lysis buffer. Antibody: Affinity purified rabbit anti-ESCO2 antibody NB100-87021 used for WB at 0.1 ug/ml. Detection: Chemiluminescence with an exposure time of 30 seconds.



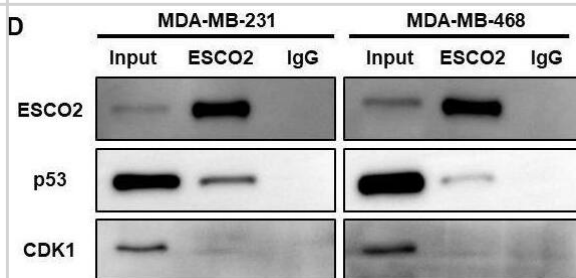
Immunoprecipitation: ESCO2 Antibody [NB100-87021] - Detection of human ESCO2 by western blot of immunoprecipitates. Samples: Whole cell lysate (0.5 or 1.0 mg per IP reaction; 20% of IP loaded) from HeLa cells prepared using NETN lysis buffer. Antibodies: Affinity purified rabbit anti-ESCO2 antibody NB100-87021 (lot 2) used for IP at 6 ug per reaction. ESCO2 was also immunoprecipitated by a previous lot of this antibody (lot 1) and rabbit anti-ESCO2 antibody from Company B. For blotting immunoprecipitated ESCO2, NB100-87021 was used at 0.4 ug/ml. Detection: Chemiluminescence with an exposure time of 30 seconds.



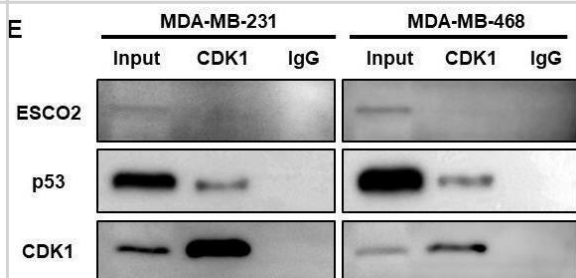
GSEA and the expression of ESCO2 in breast cancer cell lines. (A-C) Single-gene GSEA results of ESCO2. (D) ESCO2 mRNA expression in normal breast cells (MCF-10A) and various breast cancer cell lines (n=3, One-way ANOVA). (E, F) Protein expression levels and relative quantification of ESCO2 in MCF-10A cells and breast cancer cell lines (n=3, One-way ANOVA). (ns:  $p > 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ ). Image collected and cropped by CiteAb from the following open publication (<https://www.frontiersin.org/articles/10.3389/fonc.2025.1585945/full>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



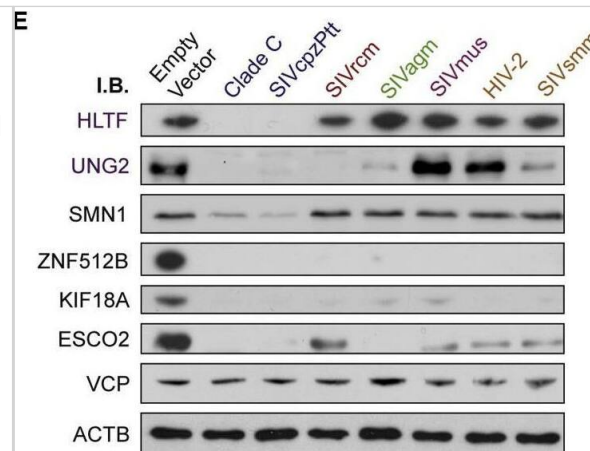
Molecular mechanisms of ESCO2 in regulating cell cycle and apoptosis. (A) Western blots showing alterations in p53, p-p53, p21 and BAX expression with ESCO2 knockdown. (B) Western blots showing alterations in CDK1 and cyclin B1 expression with ESCO2 knockdown. (C) Western blot analysis of Bcl-2, caspase-9, and caspase-7 expression and activation following ESCO2 knockdown. (D) Co-IP assays were performed using anti-ESCO2 antibody or IgG control. (E) Co-IP assays were performed using anti-CDK1 antibody or IgG control. (F, G) Quantitative analysis of protein expression (n=3, unpaired t test). (ns:  $p > 0.05$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ ). Image collected and cropped by CiteAb from the following open publication (<https://www.frontiersin.org/articles/10.3389/fonc.2025.1585945/full>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



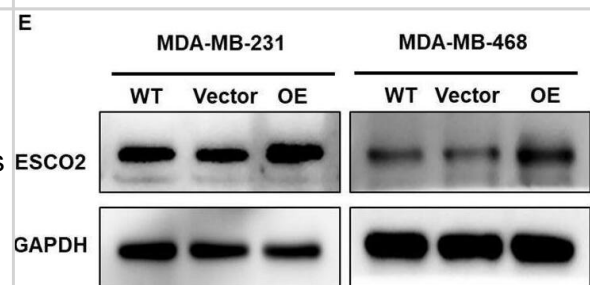
Molecular mechanisms of ESCO2 in regulating cell cycle and apoptosis. (A) Western blots showing alterations in p53, p-p53, p21 and BAX expression with ESCO2 knockdown. (B) Western blots showing alterations in CDK1 and cyclin B1 expression with ESCO2 knockdown. (C) Western blot analysis of Bcl-2, caspase-9, and caspase-7 expression and activation following ESCO2 knockdown. (D) Co-IP assays were performed using anti-ESCO2 antibody or IgG control. (E) Co-IP assays were performed using anti-CDK1 antibody or IgG control. (F, G) Quantitative analysis of protein expression (n=3, unpaired t test). (ns:  $p > 0.05$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ ). Image collected and cropped by CiteAb from the following open publication (<https://www.frontiersin.org/articles/10.3389/fonc.2025.1585945/full>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Identification of Proteome Changes Conserved Between Human and Primate Lentiviral Vpr Lineages(A) Graphical summary of the TMT experiment testing conservation of Vpr function.(B) GFP+ (transduced) cells at harvest. Cells were transduced at an infectious MOI of 1.5 based on prior titration, with the actual resulting percent transduction varying slightly across the samples. Because non-HIV-1/SIVcpz Vpr is not packaged in the viral particles used, the percent transduced represents all cells exposed to Vpr under those conditions.(C) Proportion of cells in G2/M at point of harvest, based on 7-AAD staining and Watson pragmatic modeling.(D) Scatterplots showing the pairwise comparison between each Vpr tested and empty vector control, with defined groups of 302 Vpr-depleted (blue) and 413 increased (red) proteins highlighted. (E) Immunoblot of example known, non-conserved, and conserved targets of Vpr-mediated depletion. The HIV-2 Vpr is a primary isolate HIV-2 Vpr (7312a), whereas the proteomics experiment described in (A) used HIV-2 ROD Vpr. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/31042482>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Overexpression of ESCO2 promotes DNA replication. (A, B) Validation of lentiviral transfection efficiency for ESCO2 overexpression via qRT-PCR in MDA-MB-231 and MDA-MB-468 cells (n=3, One-way ANOVA). (C-E) Validation of lentiviral transfection efficiency for ESCO2 overexpression via Western blot in MDA-MB-231 and MDA-MB-468 cells (n=3, One-way ANOVA). (F, H, I) Flow cytometry analysis of cell cycle distribution in MDA-MB-231 and MDA-MB-468 cells overexpressing ESCO2 (n=3, unpaired t test). (G, J) Flow cytometry analysis showing the effects of ESCO2 overexpression on apoptosis in MDA-MB-231 and MDA-MB-468 cells (n=3, unpaired t test). (K, L) CCK8 assay showed that ESCO2 overexpression promoted cell proliferation (n=3, Two-way ANOVA). (ns:  $p > 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ , \*\*\*\* $p < 0.0001$ ). Image collected and cropped by CiteAb from the following open publication (<https://www.frontiersin.org/articles/10.3389/fonc.2025.1585945/full>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Li P, Wei L, Li M et al. ESCO2 inhibition induces cell cycle arrest and apoptosis in breast cancer via the P53-CDK1 axis and the BAX/Bcl2/caspase signaling cascade *Frontiers in Oncology* 2025-07-10 [PMID: 40708936]

He P, Xin W, Schulz P, Sierks MR Promiscuous Targeting of Cellular Proteins by Vpr Drives Systems-Level Proteomic Remodeling in HIV-1 Infection *Cell Rep* 2019-04-30 [PMID: 31042482] (WB, Human)

Greenwood E, Williamson J, Sienkiewicz A et al. Vpr drives massive cellular proteome remodelling in HIV-1 infection. *bioRxiv* 2018-07-23 [PMID: 31042482] (IB, Human)

Evans EB, Hogarth C, Evanoff RM et al. Localization and regulation of murine Esco2 during male and female meiosis. *Biol Reprod* 2012-09-01 [PMID: 22699483]

Hogarth CA, Mitchell D, Evanoff R et al. Identification and expression of potential regulators of the mammalian mitotic-to-meiotic transition. *Biol Reprod.* 2011-01-01 [PMID: 20826732]

Details:

UBE1L2/MOP-4 (IMG-6168A). 1. WB: Mouse postnatal testis, Fig 2B.



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### **Products Related to NB100-87021**

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NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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