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Datasheet for 600-401-R05

# DDT Antibody

## Overview

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| **Description:** | Anti-DDT (RABBIT) Antibody - 600-401-R05 |
| **Item No.:** | 600-401-R05 |
| **Size:** | 100 µg |
| **Applications:** | IHC, WB, IP |
| **Reactivity:** | Human, Mouse, Rat |
| **Host Species:** | Rabbit |

## Product Details

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| **Background:** | DDT, D-dopachrome tautomerization, converts D-dopachrome into 5,6-dihydroxyindole. Northern blot analysis revealed that DDT was expressed as a 0.6-kb mRNA in all tissues tested, with the strongest expression in liver. The DDT gene in human and mouse is identical in exon structure to the MIF gene. Both genes have 2 introns that are located at equivalent positions, relative to a 2-fold repeat in protein structure. The genes for DDT and MIF are closely linked on human chromosome 22 and mouse chromosome 10. This antibody is suitable for researchers interested in stem cell research. |
| **Synonyms:** | D-dopachrome tautomerase,Phenylpyruvate tautomerase II |
| **Host Species:** | Rabbit |
| **Clonality:** | Polyclonal |
| **Format:** | IgG |

## Target Details

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| **Gene Name:** | DDT |
| **Reactivity:** | Human, Mouse, Rat |
| **Immunogen Type:** | Conjugated Peptide |
| **Immunogen:** | DDT affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a sequence at the C-terminal of human DDT. |

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| **Purity/Specificity:** | Anti-DDT antibody is directed against human DDT protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest reactivity with this protein from human, mouse, and rat based on homology for the immunogen sequence. Cross reactivity with DDT from other sources has not been determined. |
| **Relevant Links:** | • UniProtKB - P30046<br>• GeneID - 1652<br>• NCBI - NP_001077861.1 |

## Application Details

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| **Tested Applications:** | IHC, WB |
| **Suggested Applications:** | IP (Based on references) |
| **Application Note:** | Anti-DDT is tested for Immunohistochemistry-P and Western Blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately ~12.7 kDa corresponding to the appropriate cell lysate or extract. |
| **Assay Dilutions:** | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below. |
| **IHC:** | 1:100-1:500 |
| **WB:** | 0.5 µg/mL |

## Formulation

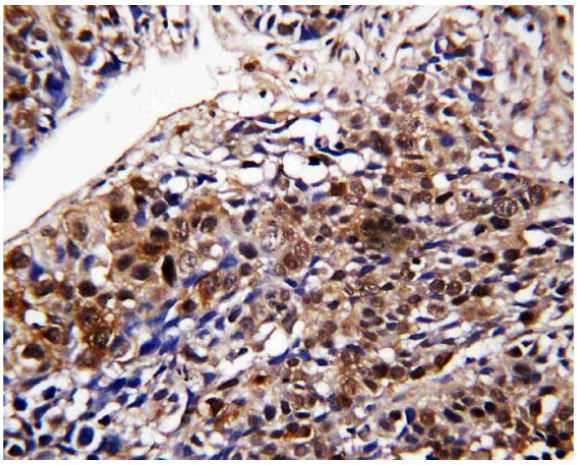
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| **Physical State:** | Lyophilized |
| **Concentration:** | 0.5 mg/mL by UV absorbance at 280 nm |
| **Buffer:** | 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3 |
| **Preservative:** | 0.05mg Thimerosal |
| **Stabilizer:** | 5mg BSA |
| **Reconstitution Volume:** | 200µL |
| **Reconstitution Buffer:** | Restore with deionized water (or equivalent) |

## Shipping & Handling

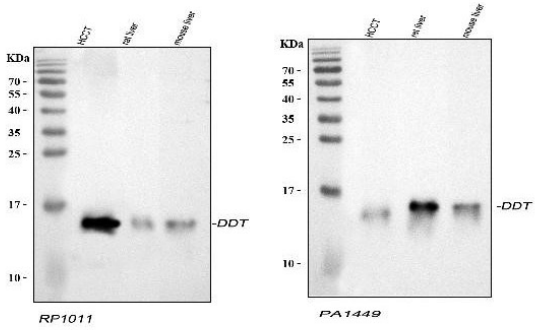
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| **Shipping Condition:** | Ambient |

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| **Storage Condition:** | Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use. |
| **Expiration:** | Expiration date is one (1) year from date of receipt. |

## Images



**Immunohistochemistry**
Immunohistchemistry analysis of DDT using anti-DDT antibody.
DDT was detected in paraffin-embedded section of human lung cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1µg/ml rabbit anti-DDT Antibody overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) with DAB as the chromogen.



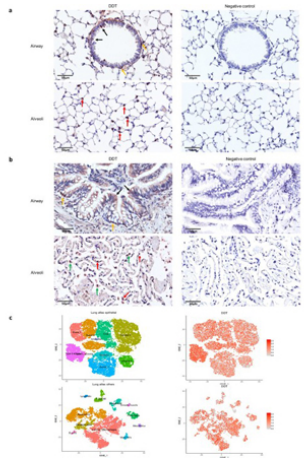

**Western Blot**

Western blot analysis of DDT using anti-DDT antibody (from recombinant protein, Left) and anti-DDT antibody (600-401-R05, from peptide, Right).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30µg of sample under reducing conditions.

Lane 1: human hepatocellular carcinoma tumor tissue (HCCT) lysates, Lane 2: rat liver tissue lysates, Lane 3: mouse liver tissue lysates.

After Electrophoresis, proteins were transferred to a nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with either affinity purified rabbit anti-DDT rec antigen polyclonal antibody or affinity purified rabbit anti-DDT antigen polyclonal antibody (p/n 600-401-R05) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for DDT at approximately 13-15 kDa. The expected band size for DDT is at 13 kDa.

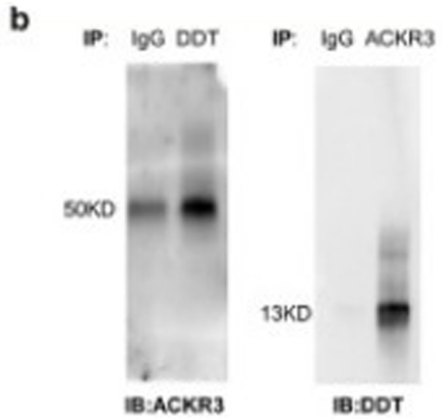


**Immunohistochemistry**
Immunohistochemical analysis of DDT expression in control lung tissue from a mouse and a patient with normal lung function.

(a) Representative pictures of lung tissue from a healthy control mouse stained for DDT. Left panels: DDT expression was observed in ATII (red arrows), ciliated epithelial cells (black arrows) and basal epithelial cells (yellow arrow) as indicated by the arrows. Right panels: negative controls for airway and alveolar tissue.

(b) Representative pictures of control lung tissue from a patient with normal lung function undergoing surgical resection for lung cancer. Left panels: DDT expression was observed in ATII (red arrows), macrophages (green arrows), ciliated cells (black arrows) and basal epithelial cells (yellow arrows) as indicated by the arrows. Right panels: negative controls for airway and alveolar tissue.

(c) Left t-SNE shows the major epithelial, immune and mesenchymal clusters present in human lung tissue. Right t-SNE depicts DDT mRNA expression in different clusters in lung according to the Lung Cell Atlas. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.) Fig 1.
PMID: 34098338




**Western Blot**
b) Immunoprecipitation followed by western blot showed co-immunoprecipitation of DDT with ACKR3 (50KD) from A549 epithelial cell lysates (original images can be found in supplemental data file 2). IB: immunoblotting done with an antibody against either ACKR3 or DDT. IP: immunoprecipitation done with an antibody against either ACKR3 or DDT. IgG nonspecific antibody control. Fig 4.
PMID: 34098338

## References

- Song S et al. D-dopachrome tautomerase contributes to lung epithelial repair via atypical chemokine receptor 3-dependent Akt signaling. *EBioMedicine.* (2021)

## Disclaimer

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