abcam

ab125020

# Anti-USF1 antibody [EPR6430]

Recombinant | RabMAb

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Storage buffer** | pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | EPR6430 |
| **Purification technique** | Affinity purification Protein A |
| **Dissociation constant** | $9.5 \times 10^{-11}$ M |
| **Concentration** | 0.086 - 0.092 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## ICC/IF

### Not recommended

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## IP

### Not recommended

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/10000 - 1/50000 |
| **Notes** | - |

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## IHC-P

### Not recommended

| | |
|---|---|
| **Species** | Human, Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/10 - 1/100 |

| | |
|---|---|
| **Notes** | ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

### Predicted

| | |
|---|---|
| **Species** | Mouse, Rat |
| **Dilution info** | - |
| **Notes** | - |

## Target data

See full target information USF1

| | |
|---|---|
| **Function** | Transcription factor that binds to a symmetrical DNA sequence (E-boxes) (5'-CACGTG-3') that is found in a variety of viral and cellular promoters. |

## Storage

| | |
|---|---|
| **Shipped at conditions** | Conditional Ambient |
| **Appropriate short-term storage conditions** | +4°C |
| **Appropriate long-term storage conditions** | -20°C |
| **Storage information** | Stable for 12 months at -20°C |

## Notes

**Patented technology**
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

**What are the advantages of a recombinant monoclonal antibody?**
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

## Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

| | |
|---|---|
| **Activity summary** | USF1 also known as Upstream Stimulatory Factor 1 is a transcription factor with a molecular weight of about 43 kDa. It binds to specific DNA sequences to regulate transcription of target genes. This protein expresses in many tissues and is particularly abundant in the liver adipose tissue and muscle. It belongs to the bHLH (basic helix-loop-helix) family of transcription factors and it dimerizes to function effectively. |
| **Biological function summary** | USF1 plays a role in controlling lipid and glucose metabolism. As part of a transcriptional complex it regulates the expression of genes involved in metabolic processes. USF1 influences the transcription of genes tied to cholesterol biosynthesis such as HMGCR (3-hydroxy-3-methylglutaryl-CoA reductase) and genes connected to fatty acid metabolism. Its activity helps manage the body's metabolic balance by controlling enzyme levels in these pathways. |
| **Pathways** | USF1 integrates within the lipid metabolism pathway and the insulin signaling pathway. In lipid metabolism it regulates enzymes that are critical for lipid homeostasis such as those involved in cholesterol synthesis. In the insulin signaling pathway USF1 interacts with proteins like SREBP-1c (Sterol Regulatory Element-Binding Protein 1c) affecting the expression of glucoregulatory genes. These interactions coordinate responses to metabolic demands and help maintain energy balance within cells. |
| **Associated diseases and disorders** | Several studies associate USF1 with dyslipidemia and metabolic syndrome. Variants of USF1 link to alterations in lipid profiles potentially increasing the risk for cardiovascular diseases. The protein interacts with other key regulators such as LXR (Liver X Receptor) influencing cholesterol metabolism and contributing to atherosclerosis development. Understanding USF1's role in these conditions can help develop targeted therapies for metabolic disorders. |

## Product promise

**Tested**

We have tested this species and application combination and it works. It is covered by our product promise.

**Expected**

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

**Predicted**

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

**Not recommended**

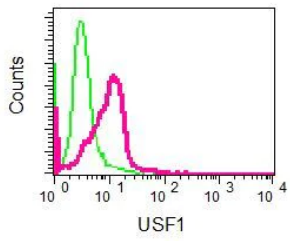
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

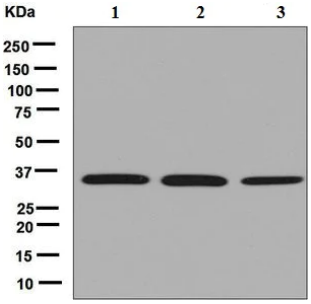
## 3 product images




### Flow Cytometry (Intracellular) - Anti-USF1 antibody [EPR6430] (ab125020)

USF1 Flow Cytometry (Intracellular) staining using rabbit Anti-USF1 antibody

Intracellular flow cytometric analysis of permeabilized Jurkat cells using ab125020 at 1/10 dilution (red) or a rabbit IgG (negative) (green).




### Western blot - Anti-USF1 antibody [EPR6430] (ab125020)

All lanes:
Western blot - Anti-USF1 antibody [EPR6430] (ab125020) at 1/10000 dilution

Lane 1:
K-562 cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

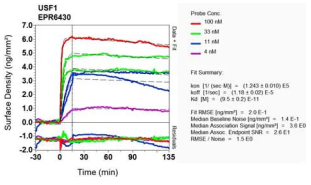
Lane 3:
Hela cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 34 kDa

Observed band size: 34 kDa




### OI-RD Scanning - Anti-USF1 antibody [EPR6430] (ab125020)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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