

DESCRIPTION

Source *Trichoplusia ni*, *T. ni* (baculovirus)-derived mouse USP18 protein
Ser47 - Ser368 with a N-terminal Met and 6-His tag
Accession # AAD21222.1

Predicted Molecular Mass 38 kDa

SPECIFICATIONS

Activity Reaction conditions will need to be optimized for each specific application. We recommend an initial recombinant murine USP18 concentration of 100-250 nM when using ISG15-AMC (Catalog # [212-GD](#)) as a substrate.

Purity >98%, by SDS-PAGE under reducing conditions and visualized by Colloidal Coomassie® Blue stain.

Formulation Supplied as a solution in HEPES, NaCl, Glycerol, EDTA and DTT. See Certificate of Analysis for details.

PREPARATION AND STORAGE

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.**

- 6 months from date of receipt, -70 °C as supplied.
- 3 months, -70 °C under sterile conditions after opening.

BACKGROUND

Ubiquitin-like carboxyl-terminal hydrolase 18 (USP18) is a specialized cysteine protease with a predicted molecular weight of 42 kDa. USP18 from *Mus musculus* is a member of the peptidase C19 family and shares 70% amino acid identity with its human ortholog. USP18 plays an important role in antiviral responses and interferon-mediated signaling pathways. Mice lacking the gene (USP18^{-/-}) are hypersensitive to interferon, have shortened lifespans and pathologic abnormalities of the brain. While it was initially speculated that the cause of these phenotypes stems from the accumulation of ISG15-conjugated intracellular proteins (a target for USP18 catalytic function), it was later demonstrated that USP18 has multiple roles, at least one of which is independent of its ISGylase activity.

References:

1. Goldmann, T. *et al.* (2015) EMBO J. **34**:1612.
2. Ketscher, L. and K.P. Knobloch (2015) Cytokine **76**:569.
3. Knobloch, K.P. *et al.* (2005) Mol. Cell Biol. **25**:11030.
4. Speer, S.D. *et al.* (2016) Nat. Commun. **7**:11496.