

USP27X [DAC-tagged]

Deconjugating enzyme: Deubiquitylase

Alternate Names: USP22L, X-linked ubiquitin carboxyl-terminal hydrolase 27, Ubiquitin thioesterase 27, Ubiquitin-specific-processing protease 27

Cat. No. 64-0046-050
Lot. No. 30156

Quantity: 50 µg
Storage: -70°C



FOR RESEARCH USE ONLY

NOT FOR USE IN HUMANS

CERTIFICATE OF ANALYSIS Page 1 of 2

Background

Deconjugating enzymes (DCEs) are proteases that process ubiquitin or ubiquitin-like gene products, reverse the modification of proteins by a single ubiquitin or ubiquitin-like protein (UBL) and remodel polyubiquitin (or poly-UBL) chains on target proteins (Reyes-Turcu *et al.*, 2009). The deubiquitylating – or deubiquitinating – enzymes (DUBs) represent the largest family of DCEs and regulate ubiquitin dependent signalling pathways. The activities of the DUBs include the generation of free ubiquitin from precursor molecules, the recycling of ubiquitin following substrate degradation to maintain cellular ubiquitin homeostasis and the removal of ubiquitin or ubiquitin-like proteins (UBL) modifications through chain editing to rescue proteins from proteasomal degradation or to influence cell signalling events (Komander *et al.*, 2009). There are two main classes of DUB, cysteine proteases and metalloproteases. Ubiquitin specific protease 27X (USP27X) is a member of the cysteine protease enzyme family and cloning of the gene was first described by Puente *et al.* (2003). Although closely related to USP22, which deubiquitylates histones, USP27X lacks the N-terminal ubiquitin binding protein zinc finger domain, suggesting it does not have the ability to deubiquitylate histones (Puente *et al.*, 2003).

References:

Komander D, Clague MJ and Urbe S (2009) Breaking the chains: structure and function of the deubiquitinases. *Nat Rev Mol Cell Biol* 10, 550-563.

Lee DW, Pegg M, Deak M, Toth R, Gage ZO, Wood N, *et al.* (2012) The Dac-tag, an affinity tag based on penicillin-binding protein 5. *Anal Biochem* 428, 64-72.

Puente XS, Sanchez LM, Overall CM and Lopez-Otin C (2003) Human and mouse proteases: a comparative genomic approach. *Nature reviews. Genetics* 4, 544-558.

Reyes-Turcu FE, Ventii KH and Wilkinson KD (2009) Regulation and cellular roles of ubiquitin-specific deubiquitinating enzymes. *Ann Rev Biochem* 78, 363-397.

Physical Characteristics

Species: human

Protein Sequence: Please see page 2

Source: *E. coli*

Quantity: 50 µg

Concentration: 0.5 mg/ml

Formulation: 50 mM HEPES pH 7.5,
150 mM sodium chloride,
2 mM dithiothreitol, 10% glycerol

Molecular Weight: ~79.3 kDa

Purity: >67% by InstantBlue™ SDS-PAGE

Stability/Storage: 12 months at -70°C;
aliquot as required

Quality Assurance

Purity:

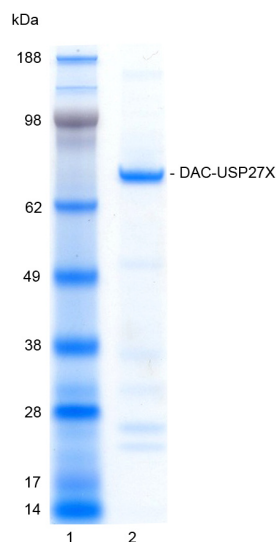
4-12% gradient SDS-PAGE
InstantBlue™ staining
Lane 1: MW markers
Lane 2: 1 µg DAC-USP27X

Protein Identification:

Confirmed by mass spectrometry.

Deubiquitylase Enzyme Assay:

The activity of DAC-USP27X was validated by the monitoring of mono-ubiquitin generation as a result of the enzyme catalysed cleavage of K63-linked di-ubiquitin. Incubation of the substrate in the presence or absence of DAC-USP27X was compared confirming the deubiquitylating activity of DAC-USP27X.



www.ubiquigent.com
Dundee, Scotland, UK

ORDERS / SALES SUPPORT

International: +1-617-245-0003
US Toll-Free: 1-888-4E1E2E3 (1-888-431-3233)
Email: sales.support@ubiquigent.com

UK HQ and TECHNICAL SUPPORT

International: +44 (0) 1382 381147 (9AM-5PM UTC)
US/Canada: +1-617-245-0020 (9AM-5PM UTC)
Email: tech.support@ubiquigent.com

Email services@ubiquigent.com for enquiries regarding compound profiling and/or custom assay development services.

© Ubiquigent 2013. Unless otherwise noted, Ubiquigent, Ubiquigent logo and all other trademarks are the property of Ubiquigent, Ltd.

Limited Terms of Use: For research use only. Not for use in humans or for diagnostics. Not for distribution or resale in any form, modification or derivative OR for use in providing services to a third party (e.g. screening or profiling) without the written permission of Ubiquigent, Ltd.

Lot-specific COA version tracker: v1.0.0

USP27X [DAC-tagged]

Deconjugating enzyme: Deubiquitylase

Alternate Names: USP22L, X-linked ubiquitin carboxyl-terminal hydrolase 27, Ubiquitin thioesterase 27, Ubiquitin-specific-processing protease 27

Cat. No. **64-0046-050**
Lot. No. **30156**

Quantity: 50 µg
Storage: -70°C



FOR RESEARCH USE ONLY

NOT FOR USE IN HUMANS

CERTIFICATE OF ANALYSIS Page 2 of 2

Physical Characteristics

Continued from page 1

MSAIPGV**PI**DAESYIILIDYNSGKV
LAEQNADVRRDPASLTKMMSYVIGQAMK
AGKFKETDLVTIGNDAWATGNPVFKGSSLM
FLKPGMQVPVSQLIRGINLQSGNDACVAMA
DFAAGSQDAFVGLMNSYVNALGLKNTHFQT
VHGLDADGQYSSARDMALIGQALIRDVPNEY
SIYKEKEFTFNGIRQLNRNGLLWDNSLN
VDGIKTGHTDKAGYNLVA SATEGQMRLL
ISAVMGGRTFKGREAESKLLTWGFRFFET
VNPENLYFQGGSMCKDYVYDKDIEQIAKE
EQGEALKLQASTSTEVSHQOCSVPGLGEK
FPTWETTKPELELLGHNPRRRRITSSFTIGL
RGLINLGNTECFMNCIVQALHTPTILRDF
FLSDRHRCEMPSPCLVCEMSSLFRELYS
GNPSPHVPYKLLHLVWIHARHLAGYRQODA
HEFLIAALDVLHRRHCKGDDVGKAANNPN
HCNCIIDQIFTGGLQSDVTCQACHGVST
TIDPCWDISLDLPGSCTSFWPMSPGRESS
VNGESHIPGITTLTDCLRRFTRPEHLGS
SAKIKCGSCQSYQESTKQLTMNKLPVVACF
HFKRFEHSAKQRRKITTYISFPLELDMTP
FMAS SKESRMNGQLQLPTNSGNNENKYS
LFAVNHQGTLESGHYTSFIRHKKDQWFKCD
DAVITKASIKDVL DSEGYLLFYHKQVLE
HESEKVKEMNTQAY

Tag (**bold text**): N-terminal DAC (Lee *et al.* (2012))
Protease cleavage site: TEV™ (ENLYFQ▼G)
USP27X (regular text): Start **bold italics** (amino acid residues 1-438)
Accession number: NP_001138545



www.ubiquigent.com
Dundee, Scotland, UK

ORDERS / SALES SUPPORT

International: +1-617-245-0003
US Toll-Free: 1-888-4E1E2E3 (1-888-431-3233)
Email: sales.support@ubiquigent.com

UK HQ and TECHNICAL SUPPORT

International: +44 (0) 1382 381147 (9AM-5PM UTC)
US/Canada: +1-617-245-0020 (9AM-5PM UTC)
Email: tech.support@ubiquigent.com

Email services@ubiquigent.com for enquiries regarding compound profiling and/or custom assay development services.

© Ubiquigent 2013. Unless otherwise noted, Ubiquigent, Ubiquigent logo and all other trademarks are the property of Ubiquigent, Ltd.

Limited Terms of Use: For research use only. Not for use in humans or for diagnostics. Not for distribution or resale in any form, modification or derivative OR for use in providing services to a third party (e.g. screening or profiling) without the written permission of Ubiquigent, Ltd.

Lot-specific COA version tracker: v1.0.0