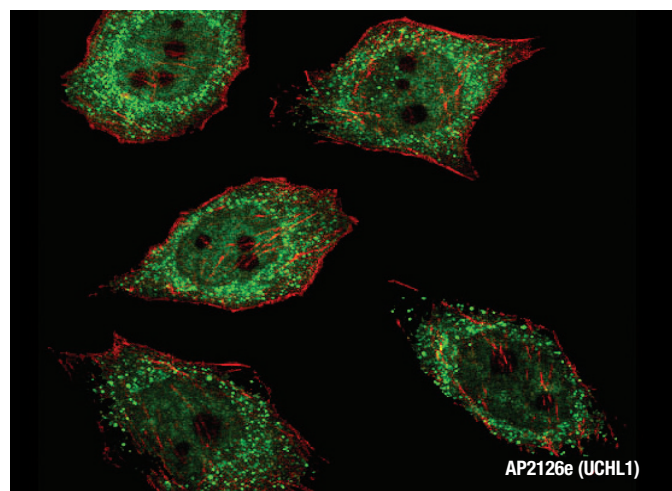


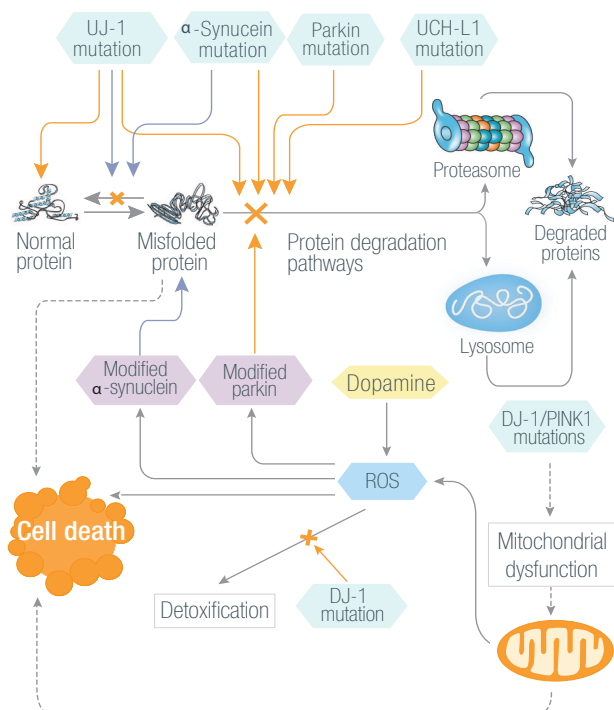
### Introduction

Ubiquitin carboxy-terminal hydrolase L1 is a deubiquitinating enzyme. Enzymes from this thiol-protease family hydrolyse ubiquitin from the C-terminal end of substrates to generate the ubiquitin monomers, the active component of the cell's ubiquitin dependent proteolytic system, which degrades damaged proteins. A second function of UCHL1 has since been described: as a dimer, UCHL1 ubiquitinylates selective substrates in an ATPase-independent reaction.

UCHL1 is expressed predominantly in neurons and in cells of the diffuse neuroendocrine system and their tumors. Mutations in this gene are implicated as the cause of Parkinson's and Alzheimer's diseases. Improper function of this enzyme affects protein degradation pathways leading to misfolded proteins accumulation such as alpha-synuclein and consequently to neurodegeneration pathology (see molecular model below).



Fluorescent image of U251 cell stained with UCHL1 Antibody (C-term) (Cat#AP2126e/SA120806AG). U251 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with UCHL1 primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C). Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). UCHL1 is localized to cytoplasm and nucleus.



### Selected Abgent Products

CAT. #	TARGET NAME
AP2127a	UCHL3 Antibody (N-term)
AP2128a	UCH37 (UCHL5) Antibody (N-term)
AP6402a	Parkin Antibody (N-term)
AP6407a	DJ-1 Antibody (N-term)
AP6401b	SNCA Antibody (C-term)
AM7099a	PARK8 (LRRK2) Antibody
AP1229a	Ubiquitin Antibody (C-term)
AP2113b	E1 Ubiquitin (UBE1) Antibody (C-term)
AP2114c	HIP2 Antibody (Center)
AP1290a	Pan SUMO Antibody

### Visual categorization

Target associated (orange)



Autophagy Stem Cell Neurodegeneration