CREATIVE BIOMART®
Assay Kit

Ubiquitin Detection Kit

Product Information

Cat.No. Kit-2163

Product Overview

The Ubiquitin Detection kit facilitates the fast, effective capture and detection of ubiquitinated proteins from biological samples. The kit utilises a high capacity, high specificity ubiquitin binding matrix together with an easy-to-use purification system for less 'hands on time' and superior performance. Allows purification of mono- and poly-ubiquitinated proteins, independent of chain linkage or length, but not free ubiquitin. Highly adaptable, compatible with samples from a wide range of species and with a broad range of lysis buffers. Analysis by Western blotting or proteomic methods enables identification and assessment of ubiquitinated proteins of interest. Kit contains sufficient ubiquitin matrix to perform up to 20 assays.

Size

20 samples

Description

The covalent attachment of ubiquitin to proteins (ubiquitination) plays a fundamental role in the regulation of cellular function through biological events including cell cycle, differentiation, immune responses, DNA repair, chromatin structure, transcription, signal transduction, endocytosis, apoptosis and degradation by the proteasome, autophagy and lysosome systems. As such ubiquitin signalling and the processes it mediates are essential for the normal functioning of cells and its dysfunction has been implicated in wide range of diseases including cancer, neurodegeneration, cardiovascular and metabolic disorders.Ubiquitination is achieved through three enzymatic steps. In an ATP-dependent process, the ubiquitin E1 activating enzyme catalyses the formation of a reactive thioester bond with ubiquitin, followed by its subsequent transfer to the active site cysteine of a ubiquitin E2 carrier protein. The selectivity of the ubiquitin cascade for a particular substrate protein relies on the interaction between the E2 conjugating enzyme (of which a cell contains relatively few) and an ubiquitin E3 ligase, of which over 600 have been identified to date. The specific E2-E3 pair required for ubiquitination of a particular substrate protein in vivo may also control the type, point and length/linkage (polyubiquitin) of the ubiquitin modification.

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Applications

1. Capture and detect ubiquitinated proteins and free chains from cell lysates and tissue extracts2. Demonstrate specific proteins are substrates for ubiquitin modification in vivo3. Identify and characterise ubiquitin modified proteins by proteomic analysis4. Investigate role of ubiquitin in particular signalling pathways

Kit Components

Ubiquitin matrix (50% slurry): 400µL; 4°CColumns: 20 tubes; AmbientCollection tubes: 20 tubes; AmbientUbiquitin monoclonal antibody (FK2) (HRP): 25µL; -20°C

Compatible Sample Types

Cell lysates, Tissue

Features & Benefits

• High capacity, high specificity ubiquitin binding matrix for superior performance• Fast, convenient protein isolation• Purify mono- and poly-ubiquitinated proteins, independent of chain linkage or length• Identify and analyse captured proteins by Western blotting or proteomic methods

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