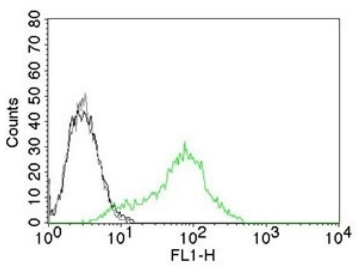
Ku70 + Ku80 Antibody for FACS / XRCC6 + XRCC5 Flow Cytometry Antibody [clone KU729] (V2128)

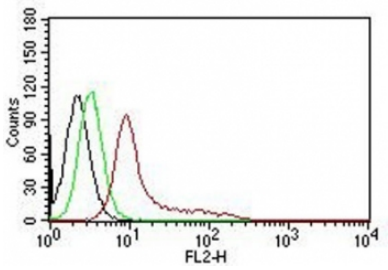
Catalog No.	Formulation	Size
V2128-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2128-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2128SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

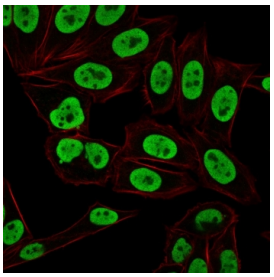
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	KU729
Purity	Protein G purified monoclonal antibody
Buffer	1X PBS, pH 7.4
Gene ID	2547
Localization	Nuclear
Applications	Flow Cytometry : 1-2ug/10^6 cells Immunofluorescence/Immunocytochemistry : 1-2ug/ml for 30 min at RT
Limitations	This **Ku70 + Ku80 antibody** is available for research use only.



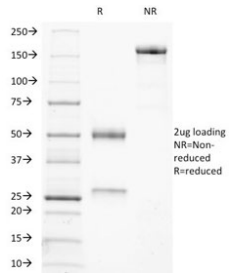
Ku70 + Ku80 Antibody for FACS / XRCC6 + XRCC5 Flow Cytometry Antibody. Flow cytometry analysis of permeabilized human 293T cells using Ku70 + Ku80 antibody (clone KU729). Cells were fixed and permeabilized to allow intracellular detection of the nuclear Ku heterodimer. The green histogram (AF488-conjugated Ku70 + Ku80 antibody) shows a clear rightward shift compared to both the black histogram (cells alone) and gray histogram (isotype control), demonstrating specific staining of XRCC6/XRCC5 within the cell population. Signal distribution is consistent with nuclear localization of Ku70 and Ku80 proteins, with minimal non-specific background.



Ku70 + Ku80 Antibody for FACS / XRCC6 + XRCC5 Flow Cytometry Antibody. Flow cytometry analysis of permeabilized human K562 cells using Ku70 + Ku80 antibody (clone KU729). Cells were fixed and permeabilized to enable intracellular detection of the nuclear Ku heterodimer. The red histogram (PE-conjugated Ku70 + Ku80 antibody) shows a pronounced rightward shift relative to the black histogram (cells alone) and green histogram (isotype control), indicating specific binding to XRCC6/XRCC5. The separation between the specific signal and controls demonstrates low background and reliable detection of Ku70 and Ku80 across the cell population, consistent with their nuclear DNA repair function.



Immunofluorescent staining of paraformaldehyde fixed human HeLa cells with Ku70 + Ku80 antibody (clone KU729, green) and Phalloidin cell membrane stain (red).



SDS-PAGE analysis of purified, BSA-free Ku70 + Ku80 antibody (clone KU729) as confirmation of integrity and purity.

Description

Ku70 (XRCC6) and Ku80 (XRCC5) form a highly conserved heterodimeric complex that functions as a central component of the non-homologous end joining (NHEJ) DNA repair pathway. This Ku70 + Ku80 Antibody for FACS is designed to detect the endogenous Ku heterodimer in fixed and permeabilized cells, supporting flow cytometry-based analysis of DNA damage response activity. The Ku complex is primarily localized to the nucleus, where it binds DNA double-strand break ends and recruits additional repair machinery, making it a widely studied marker of genomic stability and cellular stress responses.

Ku70 + Ku80 antibody, also known as XRCC6 antibody or XRCC5 antibody in the literature, recognizes proteins that are ubiquitously expressed across many proliferating and non-proliferating cell types. Expression is particularly relevant in rapidly dividing cells and tissues with high DNA turnover, where efficient repair of double-strand breaks is critical. Because the Ku heterodimer forms a stable DNA end-binding complex, its detection by flow cytometry requires intracellular access, making fixation and permeabilization essential steps for reliable staining. This Ku70 + Ku80 Antibody for FACS enables clear identification of nuclear Ku protein levels in individual cells, allowing population-based analysis of DNA repair capacity.

In flow cytometry applications, Ku70 + Ku80 Antibody for FACS is especially useful for assessing changes in DNA repair signaling following genotoxic stress, such as irradiation or chemotherapeutic treatment. Shifts in Ku70 and Ku80 expression or accessibility can reflect alterations in DNA damage response pathways, cell cycle progression, or apoptotic signaling. The clone KU729 antibody provides consistent detection of the Ku heterodimer, supporting reproducible analysis across experimental conditions and sample types. This makes it suitable for research focused on cancer biology, cell cycle regulation, and genomic maintenance mechanisms.

The Ku complex is a member of the DNA repair protein family and plays a structural and regulatory role in maintaining

chromosomal integrity. It interacts with DNA-dependent protein kinase catalytic subunit (DNA-PKcs) and other repair factors to facilitate ligation of DNA ends during NHEJ. Given its nuclear localization and tight association with chromatin, detection by flow cytometry offers a complementary approach to traditional imaging methods, enabling rapid quantification across large cell populations. A Ku70 + Ku80 Antibody for FACS provides a practical tool for researchers studying DNA repair dynamics, cellular responses to DNA damage, and the molecular mechanisms underlying genome stability.

For target-specific DNA repair pathway investigations, see our Ku70 Antibody / DNA End Binding Protein Antibody and Ku80 Antibody / Non-Homologous End Joining Antibody pages featuring XRCC6- and XRCC5-associated DNA double-strand break repair validation data.

Application Notes

1. The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the Ku70 + Ku80 Antibody for FACS / XRCC6 + XRCC5 Flow Cytometry Antibody to be titered up or down for optimal performance.

2. The KU729 mAb recognizes a conformational epitope of the Ku70 + Ku80 dimer, which is destroyed during Western blotting.

Immunogen

Nuclear extract of human HL-60 cells was used as the immunogen for this Ku70 + Ku80 Antibody for FACS / XRCC6 + XRCC5 Flow Cytometry Antibody.

Storage

Store the Ku70 + Ku80 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

XRCC6 antibody, XRCC5 antibody, Ku70 FACS antibody, Ku80 flow cytometry antibody, Ku heterodimer flow cytometry antibody