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Datasheet for KOA0882

Transcription Factor Targeted ChIP-seq Kit

Overview

Description:	Transcription Factor Targeted ChIP-seq Kit - KOA0882
Item No.:	KOA0882
Size:	1 Kit

Product Details

Background:

Association between proteins and DNA is a major mechanism in many vital cellular functions such as gene transcription and epigenetic silencing. It is crucial to understand these interactions and the mechanisms by which they control and guide gene regulation pathways and cellular proliferation. Chromatin immunoprecipitation (ChIP) is a technique to analyze the association of proteins with specific genomic regions in intact cells. ChIP can be used to study changes in epigenetic signatures, chromatin remodelling and transcription regulator recruitment to specific genomic sites.

In ChIP, living cells are first fixed with a reversible cross-linking agent to stabilize protein-DNA interactions. The most widely used reagent to fix cells is formaldehyde which generates covalent bonds between amino or imino groups of proteins and nucleic acids. Formaldehyde treatment crosslinks both DNA-protein as well as protein-protein complexes.

Following cross-linking, chromatin needs to be sheared very efficiently into homogeneous small fragments that can subsequently be used in immunoprecipitation (IP). After fragmentation, the sheared chromatin is precipitated with a specific antibody (AB) directed against the protein of interest. The chromatin-AB complex is isolated using magnetic beads. Finally, the precipitated DNA fragments are released from the AB, and analyzed. Enrichment of specific sequences in the precipitated (IP'd) DNA indicates that these sequences were associated with the protein of interest in vivo. Analysis of specific regions can be performed by quantitative polymerase chain reaction (qPCR). In recent years, ChIP combined with high-throughput Next-Generation sequencing (ChIP-seq) has become the gold standard for whole-genome mapping of protein-DNA interactions.

Synonyms:	ChIP assay, cross-linking, chromatin, Chromatin Immunoprecipitation, ChIP-seq, transcription factor, Transcription Factor Antibody
Detection Kit Type:	ChIP Kit or Chromatin Immunoprecipitation Kit

Target Details

Relevant Links:

- KOA0882 Protocol

Application Details

Application Note:	The different steps of the ChIP assay are cell fixation (cross-linking), chromatin shearing, immunoprecipitation, reverse cross-linking followed by DNA purification and analysis of the immunoprecipitated DNA. Suitable for 10 reactions.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ChIP:	User Optimized

Formulation

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	See kit insert for components stored at 2-8°C and -20°C. Do not freeze Protein A and magnetic beads.
Expiration:	Expiration date is one (1) year from date of receipt.

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.

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