

# Broad Institute - Encode3 Secondary Antibody Validation

## Bethyl Labs A301-081A Lot 3

### Target: CHD4

Approved name: chromodomain helicase DNA binding protein 4

Function: Participates in a complex which achieves epigenetic transcriptional repression associated with histone deacetylation.

Member of complex: CHD4 is a component of the nucleosome remodeling - histone deacetylase NuRD complex, which participates in the remodeling of chromatin by a combination of histone deacetylase and helicase activities.

Other complex members: HDAC1, HDAC2, KDM1A

#### References:

1. Nature. 1998. **395**:917-21. Chromatin deacetylation by an ATP-dependent nucleosome remodelling complex. Tong JK, Hassig CA, Schnitzler GR, Kingston RE, Schreiber SL. [PMID: 9804427](#).
2. Mol Cell. 1998. **2**:851-61. NURD, a novel complex with both ATP-dependent chromatin-remodeling and histone deacetylase activities. Xue Y, Wong J, Moreno GT, Young MK, Côté J, Wang W. [PMID: 9885572](#)
3. Cell 2009. Cell **138**, 660-672. LSD1 Is a Subunit of the NuRD Complex and Targets the Metastasis Programs in Breast Cancer. Wang Y et al., [PMID: 19703393](#).

#### Antibody being validated:

1. Bethyl Labs A301-081A Lot 3 [Rabbit polyclonal, affinity purified]
2. Broad Alias: PchAb 1222
3. Immunogen: Between residues 25 and 75.
4. <https://www.encodeproject.org/antibodies/ENCAB276UJU/>

This validation relies on the use of antibodies to different members of a known complex, in HepG2 cells, and the demonstration that highly similar patterns of enrichment are obtained with each antibody. The first and third tracks shown both used an antibody to CHD4 (PchAb 1222), and the second and fourth tracks shown used antibodies to HDAC2 (PchAb 317) and KDM1A (Pch 158), other members of the NuRD complex.

Overall correlation scores: CHD4 vs. HDAC2: 0.8539; CHD4 vs. KDM1A: 0.8585:

