

ENCODE DCC Antibody Validation Document

Date of Submission

Name:

Email:

Lab

Antibody Name:

Target:

Company/
Source:

Catalog Number, database ID, laboratory

Lot Number

Antibody
Description:

Target
Description:

Species Target

Species Host

Validation Method #1

Validation Method #2

Purification
Method

Polyclonal/
Monoclonal

Vendor URL:

Reference (PI/
Publication
Information)

Please complete the following for antibodies to histone modifications:
*if your specifications are not listed in the drop-down box,
please write-in the appropriate information*

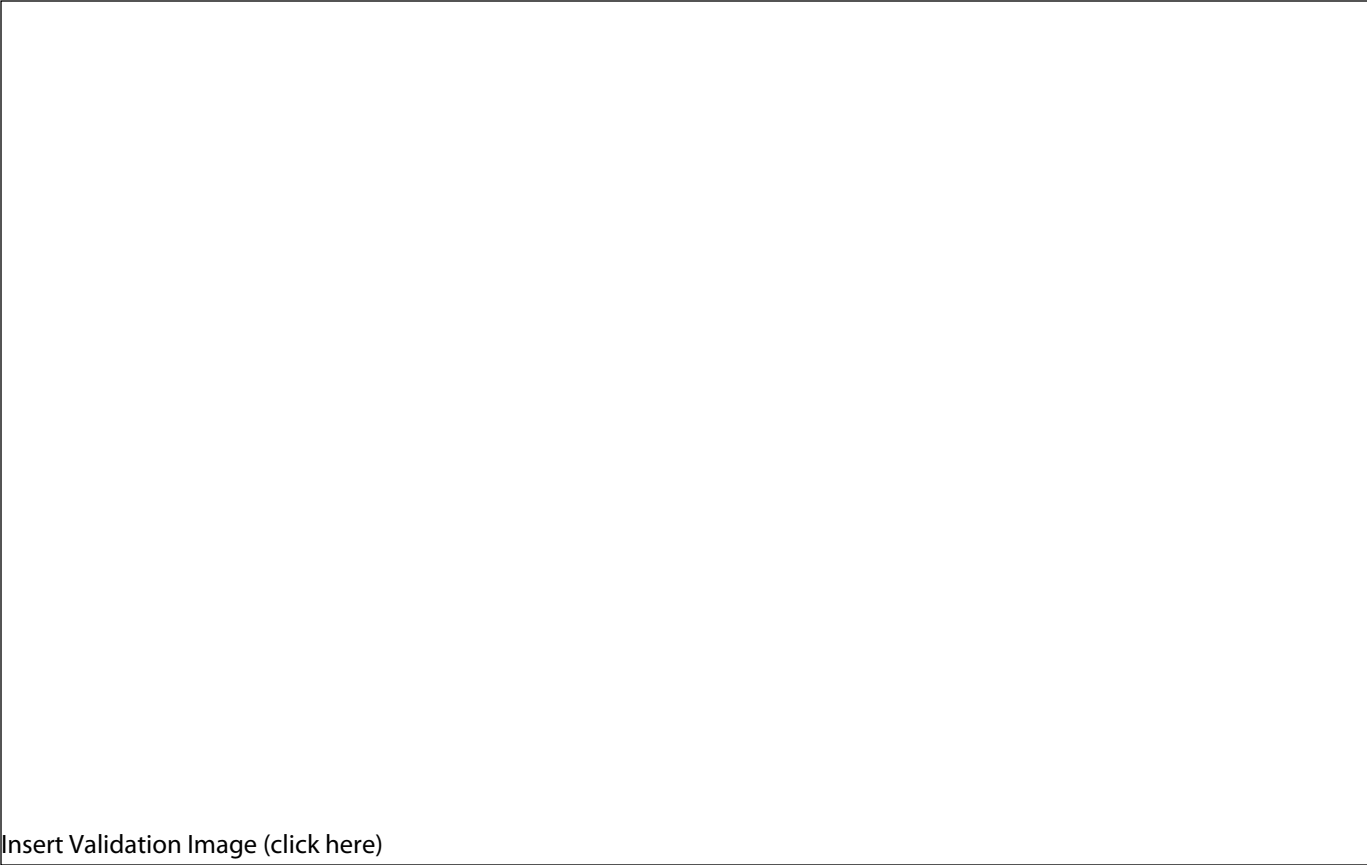
Histone Name

AA modified

AA Position

Modification

Validation #1
Analysis



Insert Validation Image (click here)

Validation #2
Analysis



Insert Validation Image (Click here)

Validation 2: Mass Spectrometry Analysis

ENCODE data standards recognizes various methodologies for secondary validation of antibodies. Among these methodologies is immunoprecipitation followed by mass spectrometry analysis. Briefly, GM12878 whole cell lysates were immunoprecipitated using primary antibody, and the IP fraction was loaded on a 12% acrylamide gel and separated with a Bio-Rad PROTEAN II xi system. Gel was stained with Coomassie Blue in order to visualize marker bands. A gel fragment corresponding to the band indicated above in the western blot image was excised and sent to the University of Alabama at Birmingham Cancer Center Mass Spectrometry/Proteomics Shared Facility. There the sample was run on an LTQ XL Linear Ion Trap Mass Spectrometer with alternating collision-induced dissociation and electron-transfer dissociation. Peptides were identified using MASCOT (Matrix Science), with probability based matching at $p < 0.05$. As per ENCODE data standards, all MASCOT results are listed below, including common contaminants. Target protein is highlighted in bold font.

1. P04264 Keratin, type II cytoskeletal 1 n=1 Tax=Homo sapiens RepID=K2C1_HUMAN
2. P00558 Phosphoglycerate kinase 1 n=3 Tax=Homininae RepID=PGK1_HUMAN
3. P35908 Keratin, type II cytoskeletal 2 epidermal n=1 Tax=Homo sapiens RepID=K22E_HUMAN
4. Q53G99 Beta actin variant (Fragment) n=1 Tax=Homo sapiens RepID=Q53G99_HUMAN
5. UPI00017BCE7F keratin, type I cytoskeletal 10 n=1 Tax=Homo sapiens RepID=UPI00017BCE7F
6. UPI0001AE6926 UPI0001AE6926 related cluster n=1 Tax=Homo sapiens RepID=UPI0001AE6926
7. P14618 Pyruvate kinase isozymes M1/M2 n=2 Tax=Homininae RepID=KPYM_HUMAN
8. Q6S8J3 POTE ankyrin domain family member E n=1 Tax=Homo sapiens RepID=POTEE_HUMAN
9. B3KU67 cDNA FLJ39264 fis, clone OCBBF2009603, highly similar to Staphylococcal nuclease domain-containing protein 1 n=1 Tax=Homo sapiens RepID=B3KU67_HUMAN
10. B4DY90 cDNA FLJ56903, highly similar to Tubulin beta-7 chain n=1 Tax=Homo sapiens RepID=B4DY90_HUMAN
11. P13647 Keratin, type II cytoskeletal 5 n=1 Tax=Homo sapiens RepID=K2C5_HUMAN
12. A6NE09 Putative uncharacterized protein ENSP00000346598 n=1 Tax=Homo sapiens RepID=A6NE09_HUMAN
13. Q53GL5 Isocitrate dehydrogenase 2 (NADP+), mitochondrial variant (Fragment) n=1 Tax=Homo sapiens RepID=Q53GL5_HUMAN
14. P35527 Keratin, type I cytoskeletal 9 n=1 Tax=Homo sapiens RepID=K1C9_HUMAN
15. Q53FG3 Interleukin enhancer binding factor 2 variant (Fragment) n=1 Tax=Homo sapiens RepID=Q53FG3_HUMAN
16. P04259 Keratin, type II cytoskeletal 6B n=1 Tax=Homo sapiens RepID=K2C6B_HUMAN
17. Q2VPJ6 HSP90AA1 protein (Fragment) n=1 Tax=Homo sapiens RepID=Q2VPJ6_HUMAN
18. B4DGL0 cDNA FLJ53619, highly similar to Heat shock protein HSP 90-beta n=1 Tax=Homo sapiens RepID=B4DGL0_HUMAN
19. B2RBM7 cDNA, FLJ95595, highly similar to Homo sapiens proteasome (prosome, macropain) 26S subunit, non-ATPase, 13 (PSMD13), mRNA n=1 Tax=Homo sapiens RepID=B2RBM7_HUMAN
20. D3DWP7 Heterogeneous nuclear ribonucleoprotein A/B, isoform CRA_b n=2 Tax=Homo sapiens RepID=D3DWP7_HUMAN
21. Q4R7F0 Testis cDNA, clone: QtsA-15489, similar to human RNA binding motif protein, X-linked (RBMX), n=1 Tax=Macaca fascicularis RepID=Q4R7F0_MACFA
22. Q96E39 RNA-binding motif protein X-linked-like 1 (Kynurenine aminotransferase III) (Protein RBM1) n=2 Tax=Homo sapiens RepID=Q96E39_HUMAN
23. A8K3K1 cDNA FLJ78096, highly similar to Homo sapiens actin, alpha, cardiac muscle (ACTC), mRNA n=1 Tax=Homo sapiens RepID=A8K3K1_HUMAN
24. O95678 Keratin, type II cytoskeletal 75 n=1 Tax=Homo sapiens RepID=K2C75_HUMAN
25. Q9Y295 Developmentally-regulated GTP-binding protein 1 n=7 Tax=Eutheria RepID=DRG1_HUMAN
26. Q59HD4 Poly(RC)-binding protein 2 isoform b variant (Fragment) n=2 Tax=Euarchontoglires RepID=Q59HD4_HUMAN
27. UPI0001AE68D6 UPI0001AE68D6 related cluster n=1 Tax=Homo sapiens RepID=UPI0001AE68D6
28. UPI0001A5EC2B PREDICTED: actin, beta-like 3 n=1 Tax=Homo sapiens RepID=UPI0001A5EC2B
29. Q0IIN1 Keratin 77 n=1 Tax=Homo sapiens RepID=Q0IIN1_HUMAN
30. P24752 Acetyl-CoA acetyltransferase, mitochondrial n=1 Tax=Homo sapiens RepID=THIL_HUMAN
31. Q96FG8 ACAT1 protein n=1 Tax=Homo sapiens RepID=Q96FG8_HUMAN
32. B3KUZ8 Aspartate aminotransferase n=1 Tax=Homo sapiens RepID=B3KUZ8_HUMAN
33. Q7KYN0 HS24/P52 protein (Fragment) n=1 Tax=Homo sapiens RepID=Q7KYN0_HUMAN

34. B2R6Z2 cDNA, FLJ93191, Homo sapiens 7-dehydrocholesterol reductase (DHCR7), mRNA n=1 Tax=Homo sapiens RepID=B2R6Z2_HUMAN
35. P02533 Keratin, type I cytoskeletal 14 n=1 Tax=Homo sapiens RepID=K1C14_HUMAN
36. UPI000179EC85 Serum albumin precursor (Allergen Bos d 6) (BSA). n=1 Tax=Bos taurus RepID=UPI000179EC85
37. Q6Y147 Upstream stimulatory factor 2c n=1 Tax=Homo sapiens RepID=Q6Y147_HUMAN
38. **B1AQP1 Upstream transcription factor 1 n=1 Tax=Homo sapiens RepID=B1AQP1_HUMAN**
39. C51WV5 Trypsinogen n=1 Tax=Sus scrofa RepID=C51WV5_PIG
40. A5A3E0 POTE ankyrin domain family member F n=1 Tax=Homo sapiens RepID=POTEF_HUMAN
41. B4DVB1 cDNA FLJ50422, highly similar to Medium-chain specific acyl-CoA dehydrogenase, mitochondrial (EC 1.3.99.3) n=2 Tax=Homo sapiens RepID=B4DVB1_HUMAN
42. Q2M2I5 Keratin, type I cytoskeletal 24 n=1 Tax=Homo sapiens RepID=K1C24_HUMAN
43. Q562R1 Beta-actin-like protein 2 n=1 Tax=Homo sapiens RepID=ACTBL_HUMAN
44. A8K8A6 cDNA FLJ76931, highly similar to Homo sapiens testes-specific heterogenous nuclear ribonucleoprotein G-T, mRNA n=1 Tax=Homo sapiens RepID=A8K8A6_HUMAN
45. Q8N7X1 RNA-binding motif protein, X-linked-like-3 n=1 Tax=Homo sapiens RepID=RMXL3_HUMAN
46. P06733 Alpha-enolase n=1 Tax=Homo sapiens RepID=ENOA_HUMAN
47. UPI0000D9FD95 keratin, type II cytoskeletal 4 n=1 Tax=Homo sapiens RepID=UPI0000D9FD95
48. B7Z1Y2 Fructose-bisphosphate aldolase n=2 Tax=Homo sapiens RepID=B7Z1Y2_HUMAN
49. Q0QEN7 ATP synthase subunit beta (Fragment) n=1 Tax=Homo sapiens RepID=Q0QEN7_HUMAN
50. O43837 Isocitrate dehydrogenase [NAD] subunit beta, mitochondrial n=2 Tax=Homo sapiens RepID=IDH3B_HUMAN
51. P61160 Actin-related protein 2 n=5 Tax=Eutheria RepID=ARP2_HUMAN
52. UPI0001AE6B07 UPI0001AE6B07 related cluster n=1 Tax=Homo sapiens RepID=UPI0001AE6B07
53. B4DJW0 cDNA FLJ55696, highly similar to Glial fibrillary acidic protein, astrocyte n=1 Tax=Homo sapiens RepID=B4DJW0_HUMAN
54. Q969I0 KRT8 protein (Fragment) n=1 Tax=Homo sapiens RepID=Q969I0_HUMAN
55. O76003 Glutaredoxin-3 n=2 Tax=Homo sapiens RepID=GLRX3_HUMAN
56. D6R991 Putative uncharacterized protein MATR3 n=1 Tax=Homo sapiens RepID=D6R991_HUMAN
57. A9QUT7 MHC class I antigen (Fragment) n=1 Tax=Homo sapiens RepID=A9QUT7_HUMAN
58. D6RAF8 Putative uncharacterized protein HNRNPD n=3 Tax=Catarrhini RepID=D6RAF8_HUMAN
59. Q12771 P37 AUF1 n=1 Tax=Homo sapiens RepID=Q12771_HUMAN
60. Q7KZS6 HCG2042771 n=1 Tax=Homo sapiens RepID=Q7KZS6_HUMAN
61. A8MUT7 Putative uncharacterized protein ENSP00000380341 n=1 Tax=Homo sapiens RepID=A8MUT7_HUMAN
62. Q1KSF8 XTP3TPA-transactivated protein 1 n=1 Tax=Homo sapiens RepID=Q1KSF8_HUMAN
63. B0UY12 Major histocompatibility complex, class I, C n=1 Tax=Homo sapiens RepID=B0UY12_HUMAN
64. C5J3Q8 MHC class I antigen (Fragment) n=1 Tax=Homo sapiens RepID=C5J3Q8_HUMAN
65. P00762 Anionic trypsin-1 n=1 Tax=Rattus norvegicus RepID=TRY1_RAT
66. UPI0001AE68FE UPI0001AE68FE related cluster n=1 Tax=Homo sapiens RepID=UPI0001AE68FE
67. UPI0001AE68FD UPI0001AE68FD related cluster n=1 Tax=Homo sapiens RepID=UPI0001AE68FD
68. B4DUC5 cDNA FLJ53202, highly similar to Exportin-2 n=1 Tax=Homo sapiens RepID=B4DUC5_HUMAN
69. B4DIM0 cDNA FLJ56442, highly similar to ATP-citrate synthase (EC 2.3.3.8) n=1 Tax=Homo sapiens RepID=B4DIM0_HUMAN
70. A2ABE5 Major histocompatibility complex, class I, C n=1 Tax=Homo sapiens RepID=A2ABE5_HUMAN
71. D0AB34 MHC class I antigen (Fragment) n=1 Tax=Homo sapiens RepID=D0AB34_HUMAN
72. Q45FZ3 MHC class I antigen (Fragment) n=2 Tax=Homo sapiens RepID=Q45FZ3_HUMAN
73. A2ACI5 Major histocompatibility complex, class I, B (Fragment) n=1 Tax=Homo sapiens RepID=A2ACI5_HUMAN
74. D5FZM8 MHC class I antigen (Fragment) n=1 Tax=Homo sapiens RepID=D5FZM8_HUMAN
75. B1VK50 MHC class I antigen (Fragment) n=1 Tax=Homo sapiens RepID=B1VK50_HUMAN
76. UPI00018814B7 UPI00018814B7 related cluster n=1 Tax=Homo sapiens RepID=UPI00018814B7
77. D2DKG7 MHC class I antigen (Fragment) n=1 Tax=Homo sapiens RepID=D2DKG7_HUMAN
78. C0M144 MHC class I antigen (Fragment) n=2 Tax=Homo sapiens RepID=C0M144_HUMAN
79. B3KTV0 cDNA FLJ38781 fis, clone LIVER2000216, highly similar to HEAT SHOCK COGNATE 71 kDa PROTEIN n=1 Tax=Homo sapiens RepID=B3KTV0_HUMAN
80. Q4R546 Brain cDNA, clone: QccE-19314, similar to human tubulin, alpha 3 (TUBA3), n=1 Tax=Macaca fascicularis RepID=Q4R546_MACFA
81. B4DUR9 cDNA FLJ56675, highly similar to Activator of 90 kDa heat shock protein ATPase homolog 1 n=1 Tax=Homo sapiens RepID=B4DUR9_HUMAN
82. A5D8X1 FLJ45422 protein n=1 Tax=Homo sapiens RepID=A5D8X1_HUMAN
83. UPI000186D735 heat shock protein 75 kDa, putative n=1 Tax=Pediculus humanus corporis RepID=UPI000186D735
84. B4DR68 cDNA FLJ58608, highly similar to Heat shock protein 75 kDa, mitochondrial n=1 Tax=Homo sapiens RepID=B4DR68_HUMAN
85. B4DJ77 cDNA FLJ53047, highly similar to TNF receptor-associated factor 1 n=1 Tax=Homo sapiens RepID=B4DJ77_HUMAN
86. Q8N532 TUBA1C protein n=1 Tax=Homo sapiens RepID=Q8N532_HUMAN
87. Q96RE1 Elongation factor 1-alpha n=4 Tax=Eutheria RepID=Q96RE1_HUMAN
88. Q53HR1 Elongation factor 1-alpha (Fragment) n=1 Tax=Homo sapiens RepID=Q53HR1_HUMAN
89. Q9NZS6 Elongation factor 1-alpha (Fragment) n=1 Tax=Homo sapiens RepID=Q9NZS6_HUMAN
90. Q05639 Elongation factor 1-alpha 2 n=5 Tax=Eutheria RepID=EF1A2_HUMAN

91. B2RB23 cDNA, FLJ95265, highly similar to Homo sapiens acetyl-Coenzyme A acyltransferase 2 (mitochondrial 3-oxoacyl-Coenzyme A thiolase) (ACAA2), nuclear gene encoding mitochondrial protein, mRNA n=1 Tax=Homo sapiens RepID=B2RB23_HUMAN
92. A8K3W9 cDNA FLJ77842 n=1 Tax=Homo sapiens RepID=A8K3W9_HUMAN
93. Q4LE34 MYO1F variant protein (Fragment) n=2 Tax=Homo sapiens RepID=Q4LE34_HUMAN
94. B3GQS7 Mitochondrial heat shock 60kD protein 1 variant 1 n=1 Tax=Homo sapiens RepID=B3GQS7_HUMAN
95. P22314 Ubiquitin-like modifier-activating enzyme 1 n=1 Tax=Homo sapiens RepID=UBA1_HUMAN
96. UPI000186E463 guanine nucleotide-binding protein G subunit alpha, putative n=1 Tax=Pediculus humanus corporis RepID=UPI000186E463
97. A2A2R6 GNAS complex locus (Fragment) n=3 Tax=Eutheria RepID=A2A2R6_HUMAN
98. Q6B6N3 Galphai2 protein n=1 Tax=Homo sapiens RepID=Q6B6N3_HUMAN
99. B011T2 Minor histocompatibility antigen HA-2 n=2 Tax=Homo sapiens RepID=MYO1G_HUMAN
100. UPI000186CC55 elongation factor 1-alpha, putative n=1 Tax=Pediculus humanus corporis RepID=UPI000186CC55
101. UPI0001AE669E UPI0001AE669E related cluster n=1 Tax=Homo sapiens RepID=UPI0001AE669E
102. P22695 Cytochrome b-c1 complex subunit 2, mitochondrial n=1 Tax=Homo sapiens RepID=QCR2_HUMAN
103. A8K8B9 cDNA FLJ77368, highly similar to Homo sapiens protein kinase, cAMP-dependent, catalytic, alpha (PRKACA), transcript variant 2, mRNA n=1 Tax=Homo sapiens RepID=A8K8B9_HUMAN
104. O14980 Exportin-1 n=1 Tax=Homo sapiens RepID=XPO1_HUMAN
105. B4DKE6 cDNA FLJ60629, highly similar to Replication factor C subunit 3 n=1 Tax=Homo sapiens RepID=B4DKE6_HUMAN
106. Q29988 HLA-C protein n=1 Tax=Homo sapiens RepID=Q29988_HUMAN
107. Q6IVJ2 MHC class I antigen (Fragment) n=1 Tax=Homo sapiens RepID=Q6IVJ2_HUMAN
108. Q2A689 MHC class I antigen n=1 Tax=Homo sapiens RepID=Q2A689_HUMAN
109. UPI000173A15C UPI000173A15C related cluster n=1 Tax=Homo sapiens RepID=UPI000173A15C
110. B2DG08 MHC class I antigen (Fragment) n=1 Tax=Homo sapiens RepID=B2DG08_HUMAN
111. A4USG3 MHC class I antigen (Fragment) n=1 Tax=Homo sapiens RepID=A4USG3_HUMAN
112. UPI0001AE729C major histocompatibility complex, class I, E precursor n=1 Tax=Homo sapiens RepID=UPI0001AE729C
113. B3KU96 cDNA FLJ39433 fis, clone PROST2004142, highly similar to GDP-L-fucose synthetase (EC 1.1.1.271) n=1 Tax=Homo sapiens RepID=B3KU96_HUMAN
114. Q86Y46 Keratin, type II cytoskeletal 73 n=1 Tax=Homo sapiens RepID=K2C73_HUMAN
115. Q5FWY2 GNAS complex locus n=1 Tax=Homo sapiens RepID=Q5FWY2_HUMAN
116. Q9BYG8 Gasdermin-C n=1 Tax=Homo sapiens RepID=GSDMC_HUMAN
117. B4DRT2 cDNA FLJ54536, highly similar to Mitochondrial 28S ribosomal protein S27 n=1 Tax=Homo sapiens RepID=B4DRT2_HUMAN
118. UPI000186F317 protocadherin-15 precursor, putative n=1 Tax=Pediculus humanus corporis RepID=UPI000186F317