

## NEUROD1

**Reactivity:**Human Mouse Rat

**Tested applications:**WB IHC

**Recommended Dilution:**WB 1:500 - 1:2000 IHC 1:50 - 1:200

**Calculated MW:**40kDa

**Observed MW:**Refer to Figures

**Immunogen:**

Recombinant protein of human NEUROD1

**Storage Buffer:**

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

**Concentration:**

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**Synonym:**

NEUROD1;BETA2;BHF-1;NEUROD;bHLHa3 ;

**Catalog #:**A1147

**Antibody Type:**

Polyclonal Antibody

**Species:**Rabbit

**Gene ID:**4760

**Isotype:**IgG

**Swiss Prot:**Q13562

**Purity:**Affinity purification

For research use only.

**Background:**

a member of the basic helix-loop-helix (bHLH) family of transcription factors. These proteins function by forming heterodimers with E-proteins and binding to the canonical E-box sequence CANNTG (1,2). Neuronal activity results in CaMKII-mediated phosphorylation of NeuroD at Ser336, which is necessary for formation and growth of dendrites (3,4). NeuroD is also phosphorylated at Ser274 though the results are context dependent as phosphorylation by Erk stimulates NeuroD activity in pancreatic  $\beta$ -cells while phosphorylation by GSK-3 inhibits NeuroD in neurons (3). NeuroD is crucially important in both the pancreas and developing nervous system, and plays a large role in the development of the inner ear and mammalian retina (3). Mice lacking NeuroD become severely diabetic and die shortly after birth due to defects in  $\beta$ -cell differentiation (2,3,5,6). The lack of NeuroD in the brain results in severe defects in development (5). Human mutations have been linked to a number of types of diabetes including type I diabetes mellitus and maturity-onset diabetes of the young (1,3).

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