NOTCH2 (Notch Receptor 2) is a Protein Coding gene. Diseases associated with NOTCH2 include Alagille Syndrome 2 and Hajdu-Cheney Syndrome. Among its related pathways are Gastric cancer and Diseases of glycosylation. Gene Ontology (GO) annotations related to this gene include calcium ion binding. An important paralog of this gene is NOTCH1.

Zhang et al. found that Id4 is a downstream target of Notch2 signaling and maintains DG NSC quiescence by blocking cell-cycle entry. Id4 expression is sufficient to promote DG NSC quiescence and Id4 knockdown rescues Notch2-induced inhibition of NSC proliferation. Id4 deletion activates NSC proliferation in the DG without evoking neuron generation, and overexpression increases NSC maintenance while promoting astrogliogenesis at the expense of neurogenesis. Together, this findings indicate that Id4 is a major effector of Notch2 signaling in NSCs and a Notch2-Id4 axis promotes NSC quiescence in the adult DG, uncoupling NSC activation from neuronal differentiation [1)].

1)
Zhang R, Boareto M, Engler A, Louvi A, Giachino C, Iber D, Taylor V. Id4 Downstream of Notch2 Maintains Neural Stem Cell Quiescence in the Adult Hippocampus. Cell Rep. 2019 Aug 6;28(6):1485-1498.e6. doi: 10.1016/j.celrep.2019.07.014. PubMed PMID: 31390563.