

20-1112: Polyclonal antibody to Cre

Clonality :	Polyclonal
Application :	IP,IHC,WB
Gene :	Cre
Gene ID :	2777477
Uniprot ID :	P06956
Format :	Sera
Alternative Name :	Recombinase cre
Isotype :	Rabbit IgG
Immunogen Information :	A synthetic peptide of the bacteriophage protein Cre (amino acids 57-73 KLNNRKWFPAEPEDVRD) was used as immunogen for this antibody

Description

This antibody recognizes a 343 amino acid recombinase protein. The Cre (cyclization recombination) enzyme, a member of a large family of recombinases, recognizes loxP which is a sequence motif of 34 bp from the P1 bacteriophage. If a DNA segment is flanked by two loxP sites in the same orientation, Cre excises that segment leaving a single loxP site in the remaining DNA molecule. The excised DNA segment is subsequently degraded. Cre and lox comprise the Cre/lox system which was first developed in the late 1980's to artificially manipulate gene expression (reviewed in Branda and Dymecki, 2004; Ghosh and Dwyne, 2002; and Gilbertson, 2003). As an example, mice with the Cre protein expressing in a specific cell type are bred with mice that contain a target gene surrounded by loxP sites. When the mice are bred, the cells carrying Cre will cause those cells to lose the target gene. If the Cre gene is, for example, bound to a promoter that only allows Cre production in neuronal cells, the target gene will be deleted only in those cells. Since 1989 the Cre/lox system has been used extensively and there are numerous animal, plant and bacterial stocks that already contain the Cre gene driven by ubiquitous, tissue-specific or inducible promoters and provide a quick method for breeding experiments. The Cre/lox system has the advantage of working in almost any type of cell. This has led to its application in many experiments, for example in selectively labeling neuronal cells in the brain thereby differentiating them from other types of surrounding cells.

Product Info

Amount :	50 µl
Content :	50 µl sera
Storage condition :	Store the antibody at 4°C, stable for 6 months. For long-term storage, store at -20°C. Avoid repeated freeze and thaw cycles.

Application Note

WB: 1:1000-1:2000, IHC (paraffin): 1:1000-1:5000, IHC (frozen): Users should optimize, IP: 1:50-1:200

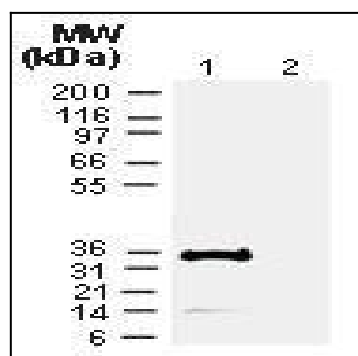


Fig:1 Western blot analysis of Cre using 20-1112 at 1:2000. Lane 1, HeLa cells stably transfected with a CRE expression plasmid. Lane 2, HeLa cells transfected with a neo plasmid (negative control).

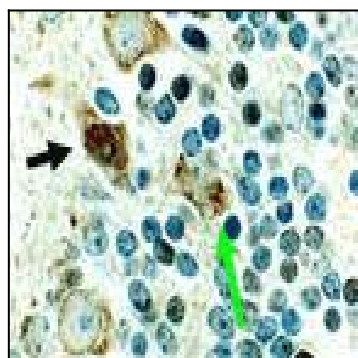


Fig:2 Immunohistochemical analysis of Cre in a formalin-fixed, paraffin embedded tissue section from the cerebellum of a Cre transgenic mouse using 20-1112 at 1:2000. In this mouse line, Cre is expressed in the brain, predominantly in the nuclei of most types of neurons. The arrow denotes an example of a stained neuron. Cre staining is also seen in the cytosol of cerebellar Purkinje cells. Hematoxylin-eosin counterstain.

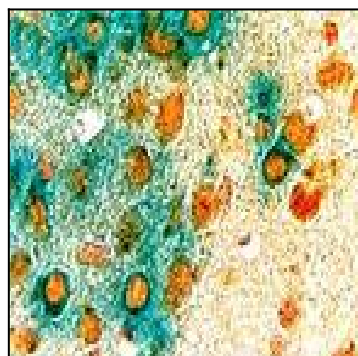


Fig:3 Immunohistochemical analysis of Cre in a formalin-fixed, paraffin embedded tissue section from the cerebellum of a Cre transgenic mouse using 20-1112 at 1:2000. In this mouse line, Cre is expressed in the neurons brain. This mouse line also contains a LacZ reporter gene that becomes transcriptionally active upon Cre-mediated recombination. Brain tissue slices were stained with X-gal (blue color) prior to embedding. Cre staining is brown. Nuclear Red counterstain.