Background: CD133, also known as Prominin, was first described as a cell surface marker recognized by monoclonal antibody AC133 on putative hematopoietic stem cells (1). Subsequent cDNA cloning indicated that CD133 is a five-transmembrane protein with a predicted molecular weight of 97 kDa. Due to heavy glycosylation, its apparent molecular weight is 130 kDa as determined by SDS-PAGE analysis (2). Besides blood stem cells, CD133 is expressed on and used to isolate other stem cells, including cancer stem cells (3-7). A deletion mutation in CD133 produces aberrant protein localization and may result in retinal degeneration in humans (8).

Specificity/Sensitivity: CD133 (D4W4N) XP® Rabbit mAb recognizes endogenous levels of total CD133 protein. The antibody is not sensitive to the glycosylation status of CD133.

Source/Purification: Monoclonal antibody is produced by immunizing animals with recombinant protein corresponding to the first extracellular domain of human CD133 protein. The epitope has been mapped to a region spanning amino acid residues 257-281, which includes a single N-linked glycosylation site (Asn274).

Recommended Antibody Dilutions:
- Western blotting: 1:1000
- Immunohistochemistry (Paraffin): 1:700†
- Unmasking buffer: SignalStain® Citrate Unmasking Solution (10X) #14746
- Antibody diluent: SignalStain® Antibody Diluent #8112
- Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.
- Immunohistochemistry (Leica® Bond™): 1:700†

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

Background References:
(1) Yin, A.H. et al. (1997) Blood 90, 5002-12.

CD133 (D4W4N) XP® Rabbit mAb

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications: W, IHC-P

Endogenous

Species Cross-Reactivity: H

Molecular Wt. 133 kDa

Isotype Rabbit IgG**

*) Species cross-reactivity is determined by western blot.

**) Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:
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- Unmasking buffer: SignalStain® Citrate Unmasking Solution (10X) #14746
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Western blot analysis of extracts from WERI-Rb-1 cells, untreated (-) or treated with PNGase F (+) using CD133 (D4W4N) XP® Rabbit mAb (upper) and β-Actin (D6A8) Rabbit mAb #8457 (lower).

Immunohistochemical analysis of paraffin-embedded human pancreas using CD133 (D4W4N) XP® Rabbit mAb.

Immunohistochemical analysis of paraffin-embedded human non-small cell lung carcinoma using CD133 (D4W4N) XP® Rabbit mAb performed on the Leica® Bond™ Rx.

Immunohistochemical analysis of paraffin-embedded human kidney using CD133 (D4W4N) XP® Rabbit mAb.