Background: Cadherins are a superfamily of transmembrane glycoproteins that contain cadherin repeats of approximately 100 residues in their extracellular domain. Cadherins mediate calcium-dependent cell-cell adhesion and play critical roles in normal tissue development (1). The classic cadherin subfamily includes N-, P-, R-, B- and E-cadherins as well as about ten other members which are found in adherens junctions (AJ), a cellular structure near the apical surface of polarized epithelial cells. The cytoplasmic domain of classical cadherins interacts with β-catenin, γ-catenin (also called plakoglobin) and p120 catenin. β- and γ-catenin associate with α-catenin, which links the cadherin-catenin complex to the actin cytoskeleton (1,2). Unlike β- and γ-catenin, p120 regulates cadherin adhesive activity and trafficking rather than having a structural role in the junctional complex (1-4). E-cadherin is considered an acting suppressor of invasion and growth of many epithelial cancers (1-3). Recent studies indicate that cancer cells have up-regulated N-cadherin in addition to loss of E-cadherin. This change in cadherin expression is called the “cadherin switch.” N-Cadherin cooperates with the FGF receptor, leading to over-expression of MMP-9 and cellular invasion (3). In endothelial cells, VE-cadherin signaling, expression and localization are correlated with vascular permeability and tumor angiogenesis (3-6). Expression of P-cadherin, which is normally present in epithelial cells, is also altered in ovarian and other human cancers (7,8).

Specificity/Sensitivity: N-Cadherin Antibody detects endogenous levels of total N-cadherin protein. The antibody does not cross-react with other cadherin family members.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues within the amino-terminus of human N-cadherin. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

Western blot analysis of extracts from A431, MCF-7, C2C12, HUVEC, BAEC, C6 and H-4-II-E cells using N-cadherin Antibody.