

## Anti-Noggin Polyclonal Antibody

### Product Details

Ig Type:	IgG
Reactivity:	Human,Rat (predicted:Mouse,Chicken,Dog,Pig,Cow,Horse,Rabbit,Sheep)
Molecular Weight:	Theoretical: 23 kDa.
Purification:	Protein A purified

### Applications

Verified Activity:	<p>1. Tissue/cell: rat kidney tissue; 4% Paraformaldehyde-fixed and paraffin-embedded; Antigen retrieval: citrate buffer (0.01 M, pH 6.0), Boiling bathing for 15 min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30 min; Blocking buffer (normal goat serum) at 37°C for 20 min; Incubation: Anti-Noggin Polyclonal Antibody, Unconjugated (TMAB-09554) 1:500, overnight at 4°C, followed by conjugation to the secondary antibody and DAB staining</p> <p>2. Blank control (black line): Hela. Primary Antibody (green line): Rabbit Anti-Noggin antibody (TMAB-09554) Dilution: 1 µg/Test;</p> <p>Secondary Antibody: Goat anti-rabbit IgG-AF488 Dilution: 0.5 µg/Test. Negative control (white blue line): PBS Isotype control (orange line): Normal Rabbit IgG Protocol The cells were fixed with 4% PFA (10 min at room temperature) and then permeabilized with 90% ice-cold methanol for 20 min at -20°C. The cells were then incubated in 5% BSA to block non-specific protein-protein interactions for 30 min at room temperature. Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.</p>
Application:	IHC-P,IHC-Fr,IF,FCM
Recommended	IHC-P: 1:100-500; IHC-Fr: 1:100-500; IF: 1:100-500; FCM: 1µg/Test

### Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

### Antigen Details

Immunogen: KLH conjugated synthetic peptide: human Noggin  
Antigen Species: Human  
Gene ID: 9241  
Uniprot ID: Q13253.1

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### Research Background

Noggin is a secreted protein involved at multiple stages of vertebrate embryonic development including neural induction and is known to exert its effects by inhibiting the bone morphogenetic protein (BMP)-signaling pathway. It binds several BMPs with very high (picomolar) affinities, with a marked preference for BMP2 and BMP4 over BMP7. By binding tightly to BMPs, Noggin prevents BMPs from binding their receptors. Noggin binds the bone morphogenetic proteins (BMP) such as BMP-4 and BMP-7, and inhibits BMP signaling by blocking the molecular interfaces of the binding epitopes for both type I and type II receptors. Interaction of BMP and its antagonist Noggin governs various developmental and cellular processes, including embryonic dorsal-ventral axis, induction of neural tissue, formation of joints in the skeletal system and neurogenesis in the adult brain. Noggin plays a key role in neural induction by inhibiting BMP4, along with other TGF- $\beta$  signaling inhibitors such as chordin and follistatin. Mouse knockout experiments have demonstrated that noggin also plays a crucial role in bone development, joint formation, and neural tube fusion.

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