

DESCRIPTION

Species Reactivity	Human/Rat
Specificity	Detects human and rat DYRK1A in Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human DYRK1A Arg438-Thr511 Accession # Q13627
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	10 µg/mL	See Below

DATA

Western Blot

Detection of Human/Rat DYRK1A by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line and Rat-2 rat embryonic fibroblast cell line. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human/Rat DYRK1A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5407) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for DYRK1A at approximately 100 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Immunohistochemistry

DYRK1A in Human Kidney. DYRK1A was detected in immersion fixed paraffin-embedded sections of human kidney using Sheep Anti-Human/Rat DYRK1A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5407) at 10 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counterstained with hematoxylin (blue). Specific staining was localized to nuclei of epithelial cells in convoluted tubules. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#). This application has not been tested in rat samples.

Simple Western

Detection of Human DYRK1A by Simple Western™. Simple Western lane view shows lysates of HeLa human cervical epithelial carcinoma cell line, loaded at 0.2 mg/mL. A specific band was detected for DYRK1A at approximately 113 kDa (as indicated) using 10 µg/mL of Sheep Anti-Human/Rat DYRK1A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5407) followed by 1:50 dilution of HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

DYRK1A (Dual-specificity tyrosine [Y] phosphorylation regulated kinase 1A; also hMNB) is a member of the MNB/DYRK subfamily, CMGC Ser/Thr protein kinase family of enzymes. DYRK1A is ubiquitously expressed and shows dual substrate specificity. Autophosphorylation on Tyr321 leads to self-activation, while target proteins are Ser/Thr phosphorylated. Targets include APP, Tau, STAT3, and Cyclin L2. Human DYRK1A is 763 amino acids (aa) in length. It contains two NLSs (aa 69-105 and 109-150), a kinase catalytic domain (aa 159-479), and C-terminal poly-Ser and poly-His regions. DYRK1A activity has been implicated in neuronal development and Down syndrome.