

#13608 Store at -20°C

Phospho-TTF-1 (Ser327) Antibody



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	42	Rabbit	#P43699	7080

Product Usage Information	Application Western Blotting Immunoprecipitation	Dilution 1:1000 1:50
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Phospho-TTF-1 (Ser327) Antibody recognizes endogenous levels of TTF-1 protein only when phosphorylated at Ser327.	
Species predicted to react based on 100% sequence homology:	Mouse, Rat	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser327 of human TTF-1 protein.	
Background	<p>Thyroid Transcription Factor 1 (TTF-1, also known as NKX2-1), a member of the NKX homeobox transcription factor family, was initially discovered in the FRTL-5 rat thyroid cell line (1). Subsequent studies have shown that TTF-1 plays an important role in differentiation and morphogenesis of the developing thyroid, lung, and ventral forebrain (2). TTF-1 controls the expression of several genes, some of which are tissue specific, such as: thyroglobulin, thyroperoxidase, and the thyrotropin receptor in the thyroid; and surfactant proteins and clara cell secretory protein in the lung (2,3). Investigators have found that TTF-1 is expressed in malignant tumors of the thyroid and lung, and it is commonly used as a marker for both primary and malignant lung cancers (4-6).</p> <p>Research studies have shown that activation of the Raf/MEK/ERK signaling pathway results in phosphorylation of TTF-1 at multiple residues, including Ser18, Ser327, and Ser337 (7). Concomitant phosphorylation at these residues was shown to suppress the transcriptional activity of TTF-1 in a rat follicular thyroid cell model (7). These findings are consistent with previous studies demonstrating a reduction in thyroid-specific gene expression in Ras-transformed thyroid cells (8,9).</p>	
Background References	<ol style="list-style-type: none"> 1. Civitareale, D. et al. (1989) <i>EMBO J</i> 8, 2537-42. 2. Boggaram, V. (2009) <i>Clin Sci (Lond)</i> 116, 27-35. 3. Yamaguchi, T. et al. (2012) <i>Cancer Cell</i> 21, 348-61. 4. Whithaus, K. et al. (2012) <i>Arch Pathol Lab Med</i> 136, 155-62. 5. Yoshida, A. et al. (2011) <i>Lung Cancer</i> 72, 309-15. 6. Moldvay, J. et al. (2004) <i>Pathol Oncol Res</i> 10, 85-8. 7. Missero, C. et al. (2000) <i>Mol Cell Biol</i> 20, 2783-93. 8. Cobellis, G. et al. (1998) <i>Oncogene</i> 17, 2047-57. 9. Kupperman, E. et al. (1996) <i>Endocrinology</i> 137, 96-104. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting IP: Immunoprecipitation
Cross-Reactivity Key	

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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