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# Mouse TREM2 Activity Antibody Sampler Kit



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1 Kit (5 x 20 microliters)

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
TREM2 (E7P8J) Rabbit mAb (Carboxy-terminal Antigen)	76765	20 µl	11, 28 kDa	Rabbit IgG
TREM2 (E6T1P) Rabbit mAb (Amino-terminal Antigen)	61788	20 µl	28 kDa	Rabbit IgG
Syk (D3Z1E) XP® Rabbit mAb	13198	20 µl	72 kDa	Rabbit IgG
Phospho-Zap-70 (Tyr319)/Syk (Tyr352) (65E4) Rabbit mAb	2717	20 µl	70, 72 kDa	Rabbit IgG
DAP12 (D7G1X) Rabbit mAb	12492	20 µl	10, 12 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit [cellsignal.com](http://cellsignal.com) for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

## Description

The Mouse TREM2 Activity Antibody Sampler Kit provides an economical means of evaluating key members of the mouse TREM2 signaling pathway using phospho-specific and control antibodies. The kit includes enough antibodies to perform two western blot experiments with each primary antibody.

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA, 50% glycerol, and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibody.*

## Background

Alzheimer's Disease (AD) is one of the most common neurodegenerative diseases worldwide. Clinically, it is characterized by the presence of extracellular amyloid plaques and intracellular neurofibrillary tangles, resulting in neuronal dysfunction and cell death. Triggering receptor expressed on myeloid cells 2 (TREM2), a protein localized at the membrane of innate immune cells, including microglia in the brain, has been genetically linked to AD, with specific variants increasing disease risk by as much as threefold (1,2). The TREM2 receptor is a single-pass type I membrane glycoprotein that consists of an extracellular immunoglobulin-like domain, a transmembrane domain, and a cytoplasmic tail. Upon activation, TREM2 interacts with the tyrosine kinase-binding protein DNAX-activating protein 12 (DAP12, TYROBP) to form a receptor-signaling complex. The DAP12 protein structure consists of a short extracellular domain, a transmembrane domain, and a cytoplasmic immunoreceptor tyrosine-based activation motif (ITAM) (2-9). ITAMs function as a binding site for tyrosine kinases, including spleen tyrosine kinase (Syk). Syk is comprised of two tandem amino-terminal Src homology (SH) 2 domains separated by an SH2-kinase linker, and a C-terminal tyrosine kinase domain, separated from the SH2 domains by an inter-domain linker. When Syk binds to an ITAM, it changes conformation, allowing for residues within the inter-domain linker region, including Tyr352, to become phosphorylated. Residues within the activation loop subsequently become phosphorylated, leading to full Syk activation. Tyr525 and Tyr526 are located in the activation loop of the Syk kinase domain and phosphorylation at these residues (equivalent to Tyr519/520 of mouse Syk) is essential for Syk function (10-12). This activation can lead to the mediation of a variety of cellular responses, including proliferation, differentiation, inflammation, and phagocytosis. Evidence suggests that TREM2 and DAP12 may act in a Syk-dependent manner to drive microglial cellular responses in AD (2,4-8,13).

## Background References

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