## Overview

**Product name**  
Anti-GATA4 (phospho S105) antibody

**Description**  
Rabbit polyclonal to GATA4 (phospho S105)

**Host species**  
Rabbit

**Tested applications**  
Suitable for: ICC/IF, EMSA, IHC-Fr, WB

**Species reactivity**  
Reacts with: Mouse, Rat, Dog  
Predicted to work with: Chicken, Human

**Immunogen**  
Synthetic peptide (Human) derived from a region of GATA 4 that contains serine 105.

**Positive control**  
Phenylephrine (PE)-stimulated rat cardiomyocytes, transfected with mouse GATA 4.

## Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td><strong>Form</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Storage instructions</strong></td>
<td>Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.</td>
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</tbody>
</table>
| **Storage buffer**     | pH: 7.30  
Preservative: 0.05% Sodium azide  
Constituents: PBS, 0.1% BSA  
BSA is IgG and protease free |
| **Purity**             | Immunogen affinity purified |
| **Purification notes** | Purified from rabbit serum by sequential epitope-specific chromatography. The antibody has been negatively preadsorbed using a non-phosphopeptide corresponding to the site of phosphorylation to remove antibody that is reactive with non-phosphorylated tau. The final product is generated by affinity chromatography using a tau-derived peptide that is phosphorylated at serine 404. |
| **Clonality**          | Polyclonal |
| **Isotype**            | IgG |

## Applications

Our Abpromise guarantee covers the use of ab5245 in the following tested applications.
Function
Transcriptional activator that binds to the consensus sequence 5'AGATAG3' and plays a key role in cardiac development (PubMed:24000169). Involved in bone morphogenetic protein (BMP)-mediated induction of cardiac-specific gene expression (By similarity). Binds to BMP response element (BMPRE) DNA sequences within cardiac activating regions (By similarity). Acts as a transcriptional activator of ANF in cooperation with NKX2-5 (By similarity). Promotes cardiac myocyte enlargement (PubMed:20081228). Required during testicular development (PubMed:21220346). May play a role in sphingolipid signaling by regulating the expression of sphingosine-1-phosphate degrading enzyme, sphingosine-1-phosphate lyase (PubMed:15734735).

Involvement in disease
Atrial septal defect 2
Ventricular septal defect 1
Tetralogy of Fallot
Atrioventricular septal defect 4
Testicular anomalies with or without congenital heart disease
GATA4 mutations can predispose to dilated cardiomyopathy (CMD), a disorder characterized by ventricular dilation and impaired systolic function, resulting in congestive heart failure and arrhythmia. Patients are at risk of premature death.

Sequence similarities
Contains 2 GATA-type zinc fingers.

Post-translational modifications
Methylation at Lys-300 attenuates transcriptional activity.

Cellular localization
Nucleus.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
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<tr>
<td>ICC/IF</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 19546173</td>
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<tr>
<td>EMSA</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td></td>
<td>Use at an assay dependent concentration. PubMed: 22919071</td>
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<tr>
<td>WB</td>
<td></td>
<td>Use a concentration of 0.1 - 1 µg/ml. Detects a band of approximately 45 kDa (predicted molecular weight: 46 kDa).</td>
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</table>

Images
Extracts prepared from cardiomyocytes overexpressing wild-type GATA-4 (1-4 from left to right) stimulated with phenylephrine (PE) for 24 hours were resolved by SDS-PAGE on a 10% polyacrylamide gel and transferred to PVDF. Membranes were blocked with a 5% BSA-TBST buffer overnight at 4°C, then were incubated with 0.35 µg/mL ab5245 for two hours at room temperature in a 3% BSA-TBST buffer, following prior incubation with: no peptide (1), the non-phosphopeptide corresponding to the immunogen (2), a generic phosphoserine-containing peptide (3), or, the phosphopeptide immunogen (4). After washing, membranes were incubated with goat F(ab')2 anti-rabbit IgG alkaline phosphatase and signals were detected using the Tropix WesternStar method. The data show that only the peptide corresponding to GATA-4 [pS105] blocks the antibody signal, and that the S105A mutant does not react, thereby demonstrating the specificity of the antibody.

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