

## BACKGROUND

The methylation state of histones can be dynamically regulated by histone methyltransferases and demethylases. LSD1 (also known as AOF2) and the jumonji C (JmjC)-domain-containing proteins have been shown to possess histone demethylase activity. LSD1 catalyses removal of H3K4me2/H3K4me1 through a flavin-adenine-dinucleotide-dependent oxidation reaction. In contrast, JmjC-domain-containing proteins remove methyl groups from histones through a hydroxylation reaction that requires ketoglutarate and Fe(II) as cofactors.<sup>1</sup> JHDM2A (also known as JMJD1A and KDM3A) is a JmjC domain-containing protein, which specifically demethylates mono- and dimethyl-H3K9. Mutational studies indicate that a JmjC domain and a zinc finger present in JHDM2A are required for its enzymatic activity.<sup>2</sup> It was shown that JHDM2A plays an important role in nuclear hormone receptor-mediated gene activation and male germ cell development.<sup>3</sup> In addition, JHDM2A was involved in regulating fat metabolic gene expression in muscle and brown fat tissue, and the knockout mice exhibited obesity and hyperlipidemia.<sup>4</sup>

### References:

1. Bartova E et al.: J. Histochem. Cytochem. 56:711-721, 2008.
2. Lan F et al.: Curr Opin Cell Biol. 20: 316-325, 2008.
3. Yamane K et al.: Cell 125:483-495, 2006.
4. Tateishi K et al.: Nature 458:757-761, 2009.

## TECHNICAL INFORMATION

### Source:

JHDM2A/KDM3A Antibody is a mouse monoclonal antibody raised against the purified recombinant His-tagged fusion protein containing human JHDM2A/KDM3A sequence (28-289 aa) expressed in *E. Coli*.

### Specificity and Sensitivity:

This monoclonal antibody detects endogenous levels of JHDM2A/KDM3A proteins normal primary cell lysates.

**Storage Buffer:** PBS and 30% glycerol

### Storage:

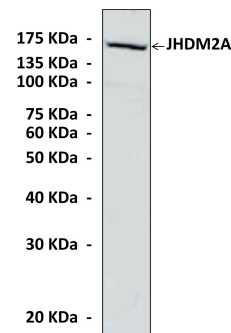
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

## APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	1:50
IHC	1:100
ICC	n/d
FACS	n/d

\*Optimal dilutions must be determined by end user.

## QUALITY CONTROL DATA



Western Blot detection of endogenous JHDM2A/KDM3A protein from HUVEC lysate using JHDM2A/KDM3A Antibody.

