

## BACKGROUND

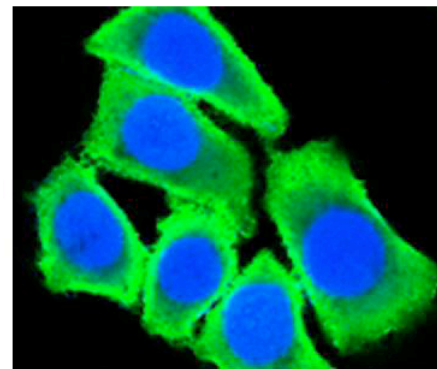
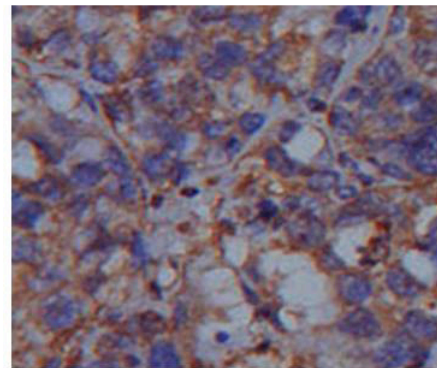
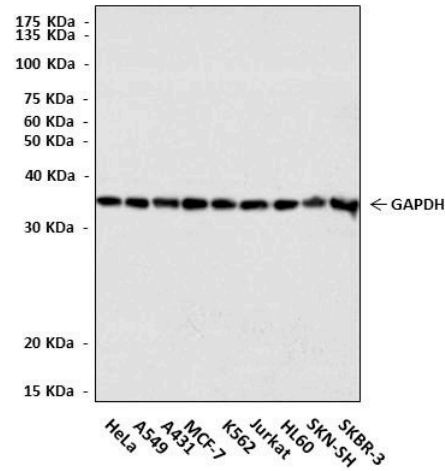
GAPDH (Glyceraldehyde 3-phosphate dehydrogenase, G3PDH) is an enzyme that catalyzes the reversible Oxidative phosphorylation of glyceraldehyde-3-phosphate in the presence of inorganic phosphate and nicotinamide adenine dinucleotide (NAD), the sixth step of glycolysis and thus serves to break down glucose for energy and carbon molecules.<sup>1</sup> In addition to this long established metabolic function, GAPDH has recently been implicated in several non-metabolic processes, including transcription activation, initiation of apoptosis, and ER to Golgi vesicle shuttling.<sup>2</sup> The enzyme exists as a tetramer of identical chains.

Because the GAPDH gene is often stably and constitutively expressed at high levels in most tissues and cells, it is considered a housekeeping gene. For this reason, GAPDH is commonly used by biological researchers as a loading control for western blot and as a control for RT-PCR. However, many researchers report different regulation of GAPDH under specific conditions.<sup>3</sup> Therefore, the use of GAPDH as loading control has to be controlled carefully.

### References:

1. Voet, D. & Voet, J. G.: *Biochemistry*, Third Edition. J. Wiley & Sons, Hoboken, NJ, 2004
2. Tarze, A. et al: *Oncogene* 26:2606-20, 2007
3. Graven, K.K. et al: *J. Biol. Chem.* 269:24446-53, 1994

## QUALITY CONTROL DATA



**Top:** Western Blot detection of GAPDH proteins in various cell lysates using GAPDH Antibody. **Middle:** This antibody stains paraffin-embedded human breast cancer tissue in immunohistochemical analysis. **Bottom:** It also stains HepG2 cells in confocal immunofluorescent testing (GAPDH Antibody: Green; DRAQ5 DNA dye: Blue).

## TECHNICAL INFORMATION

### Source:

GAPDH Antibody is a mouse monoclonal antibody raised against purified recombinant human GAPDH fragments expressed in *E. coli*.

### Specificity and Sensitivity:

This antibody detects endogenous GAPDH proteins without cross-reactivity with other related proteins

**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
ELISA	1:10000
IHC	1:200
ICC	1:200

*\*Optimal dilutions must be determined by end user.*

