

## Product Information

### Monoclonal Anti-Adenovirus 2 E1A (Adenovirus 2 early region 1) Clone M73

Purified Mouse Immunoglobulin

Product Number **A4470**

#### Product Description

Monoclonal anti-Adenovirus 2 E1A (Adenovirus 2 early region 1) (mouse IgG2a-kappa isotype) is derived from the M73 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from a BALB/c mouse immunized with full length recombinant adenovirus 2 E1A protein.<sup>1,2</sup> The antibody is purified from ascites fluid using Protein A chromatography.

Monoclonal anti-Adenovirus 2 E1A (Adenovirus 2 early region 1) recognizes adenovirus 2 and 5 E1A using immunoprecipitation (3 bands at 30-50 kDa by SDS-PAGE) as well as E1A associated proteins. The antibody may also be used for immunofluorescence.

The adenovirus early region 1A gene (E1A), the first viral gene expressed in a cell after adenovirus infection, encodes two major proteins, 243R (12S) and 289R (13S), that are produced by alternative splicing.<sup>3</sup> The primary function of these two proteins is to activate viral promoters of early genes, including E1B, E2A, E3, and E4, during viral infection. They do this by modifying the host cell transcriptional apparatus, thereby resulting in host cell immortalization or transformation.<sup>4</sup> Cellular genes that are transcriptionally activated by the E1A proteins include those encoding  $\beta$ -tubulin,<sup>5</sup> heat shock proteins,<sup>6</sup> c-Fos,<sup>7,8</sup> c-Jun,<sup>7</sup> JunB,<sup>7</sup> and c-Myc.<sup>8</sup> E1A can also repress several viral and cellular genes at the transcriptional level, such as the simian virus 40 enhancer,<sup>9,10</sup> the polyomavirus enhancer,<sup>9,11</sup> the immunoglobulin heavy-chain gene,<sup>12</sup> the cytochrome P450 gene,<sup>13</sup> the insulin gene,<sup>14</sup> and the Her-2/neu gene.<sup>15</sup>

Transformation is probably the result of disturbances in a variety of cellular basal programs, like proliferation, differentiation, and programmed cell death.<sup>16</sup> A well-characterized effect in epithelial tumors,<sup>17,18</sup> immortalized cells,<sup>19,20</sup> and primary embryo fibroblasts<sup>21,22</sup> transfected with E1A alone is a marked increase in cell sensitivity to DNA damaging agents. It is likely that the basis of E1A-induced enhanced sensitivity to DNA damage relies at least partially in the lowering of the apoptotic threshold, by acting at a distal step in the programmed cell death pathway.

#### Reagent

Monoclonal anti-Adenovirus 2 E1A (Adenovirus 2 early region 1) is supplied as a solution in phosphate buffered saline, containing 0.08% sodium azide.

Protein concentration: 1.0 mg/ml

#### Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

#### Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

#### Product Profile

A working concentration of 1-2  $\mu$ g/ml is recommended for immunoprecipitation using a whole extract of human embryonic kidney (HEK)-293 cells and 2-5  $\mu$ g/ml is recommended for immunofluorescence. HS27 cells (human dermal fibroblasts) may be used as a negative control.

**Note:** In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

## References

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