Monoclonal Anti-Tob (Transducer of ErbB2)
Clone 4B1
Purified Mouse Immunoglobulin
Product Number T2948

Product Description
Monoclonal Anti-Tob (Transducer of ErbB2) (mouse IgG2a isotype) is derived from the 4B1 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from mice immunized with human recombinant Tob. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-2) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Monoclonal Anti-Tob (Transducer of ErbB2) recognizes human Tob (approx. 45-48 kDa). The antibody can be used in immunoblotting and immunohistochemistry.

The Tob/Btg family of proteins consists of a large number of members among them Pc3/Tis21/Btg2, Btg1, Ana/Btg3, Pc3k, Tob2 and Tob. These proteins have a common domain in their amino terminal end and may have anti-proliferative activity in various cell types.

The Tob protein was identified in a search for molecules that interact with the receptor tyrosine kinase ErbB2. Active ErbB2 has a negative effect on the anti-proliferative activity of Tob. However, Tob is phosphorylated on serine and threonine residues but not on tyrosine, suggesting that active ErbB2 activates a Ser/Thr kinase that phosphorylates Tob. Unphosphorylated Tob suppresses expression of cyclin D1. It was shown that active p90Rsk1 kinase (known to be activated by protein-tyrosine kinase receptor) phosphorylates Tob on serine and threonine residues in vitro. In addition, Erk1/Erk2 MAP kinases phosphorylate Tob in vivo and in vitro, resulting in suppression of the anti-proliferative activity of Tob.

Homozygous Tob knockout mice develop greater bone mass resulting from increased numbers of osteoblasts. Furthermore, it has been shown in osteoblasts, that upon BMP2 (bone morphogenetic protein) activation, Tob associates with receptor regulated Smads (Smad 1, 5, and 8). Thus, osteoblast proliferation and differentiation is negatively regulated by Tob protein through the Smad proteins.

Reagent
Monoclonal Anti-Tob (Transducer of ErbB2) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide. Antibody Concentration: Approx. 1.5 mg/ml.

Precautions and Disclaimer
Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability
For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at −20 °C. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile
By immunoblotting, a minimum working antibody concentration of 0.05-0.1 µg/mL is determined using extracts of 293T cells transfected with human Tob encoding expression vector.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References