

DESCRIPTION

Specificity	Detects Vitamin D3 in flow cytometry.
Source	Monoclonal Mouse IgG ₁ Clone # 685503
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	25-Hydroxyvitamin D ₃
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Intracellular Staining by Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human monocyte-derived dendritic cells, fixed with paraformaldehyde and permeabilized with saponin

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

25-hydroxy-vitamin D₃ (25(OH)D₃) is synthesized in the liver and is the primary circulating form of vitamin D. Its blood concentration, which reflects 25(OH)D₃ produced by exposure to ultraviolet B, as well as dietary and vitamin D supplementation, is felt to be the best indicator of vitamin D status. 25(OH)D₃ is metabolized to 1α,25(OH)₂D₃ in the proximal tubular cells of the kidney by the enzyme 1α-hydroxylase. The vitamin D structure is similar to that of classic steroid hormones, such as estradiol, cortisol, and aldosterone in that they have the same root cyclopentanoperhydrophenanthrene ring structure. It has been shown that the active steroid hormone 1α,25(OH)₂D₃ is essential for life in higher animals. Besides playing important roles in calcium homeostasis and bone mineral metabolism, it is now known to play a role in cellular differentiation, inhibition of cell growth, immune regulation and the prevention of neoplastic transformation. The active form of vitamin D₃, 1α,25(OH)₂D₃, acts both through its cellular receptor, the vitamin D receptor (VDR), and through other extrarenal targets in an autocrine and paracrine manner where 1α-hydroxylase is present.

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