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Anti-1,3-diketone hapten [33F12] Bulk Size Ab04118-2.0-BT

Isotype and Format: Mouse IgG2a, Kappa

Clone Number: 33F12

Alternative Name(s) of Target: Hapten 1,3-diketone; β -keto acids; beta keto acids

UniProt Accession Number of Target Protein:

Published Application(s): Catalytic assays, crystallization

Published Species Reactivity: Species independent

Immunogen: The original antibody was generated by immunizing G^IX⁺ mice with a keyhole limpet hemocyanin (KLH)-coupled diketone hapten.

Specificity: This antibody was raised against 1,3-diketone hapten, but it is capable of catalyzing the decarboxylation of structurally related β -keto acids.

Application Notes: This antibody efficiently catalyzes aldol and retro-aldol reactions and covalently binds 1,3-diketone hapten. The $(k_{\text{cat}}/K_M)/k_{\text{uncat}}$ is approximately 10^9 at pH 7.5 as measured by the consumption of substrates and production of aldol products (monitored using reversed-phase high-performance liquid chromatography (HPLC) and enzymatic assays) (Wagner et al., 1995; PMID: 8525368). This antibody efficiently catalyzed the decarboxylation of two hapten-related β -keto acids (marked 4 and 5 in scheme 1 in the publication) with significant rate enhancements ($k_{\text{cat}}/k_{\text{uncat}}$) of 4959 and 11,261, respectively (Björnstedt et al., 1996). The crystallization of the Fab version of this antibody revealed a binding pocket characterized by a narrow, elongated cleft, where the catalytic lysine residue is prominently located (Barbas III et al., 1997; PMID: 9405338).

Antibody First Published in: Wagner et al. Efficient aldolase catalytic antibodies that use the enamine mechanism of natural enzymes *Science*. 1995 Dec 15;270(5243):1797-800. doi: 10.1126/science.270.5243.1797 [PMID:8525368](#)

Note on publication: The original publication describes the generation of efficient aldolase catalytic antibodies that utilize the enamine mechanism of natural enzymes, mimicking their catalytic process and exhibiting diastereofacial selectivity in the aldol reaction.

Product Form

Size: 1 mg Purified antibody in bulk size.

Purification: Protein A affinity purified

Supplied In: PBS only.

Storage Recommendation: Store at 4°C for up to 3 months. Note, this antibody is provided without

added preservatives, it is therefore recommended this antibody be handled under sterile conditions. For longer storage, aliquot and store at -20°C.

Concentration: 1 mg/ml.

Important note - This product is for research use only. It is not intended for use in therapeutic or diagnostic procedures for humans or animals.