

SM2069HRP**Monoclonal Antibody to Human IgG4 - HRP**

Alternate names:	Human Immunoglobulin G4
Quantity:	0.2 mg
Concentration:	1.0 mg/ml
Background:	Elevated levels of IgG4 and of IgG4 presenting plasma cells are frequently seen in patients with autoimmune pancreatitis (IAP) and inflammatory bowel disease (<i>Navaneethan et al.</i> 2011) and it is suggested that IAP may develop as a paraneoplastic syndrome in some cancer patients (<i>Shiokawa et al.</i> 2013).
Host / Isotype:	Mouse / IgG1
Clone:	HP6025
Immunogen:	Purified IgG4
Format:	State: Liquid purified IgG fraction Purification: Affinity Chromatography on Protein A Buffer System: PBS, pH 7.2 Preservatives: Proclin™300 Stabilizers: 0.002% Methylisothiazolone and 0.002% Bromonitrodioxane Label: HRP – Horseradish Peroxidase
Applications:	ELISA: 1/25600-1/51200. Immunohistochemistry on Frozen Sections: 1/40-1/80. Immunohistochemistry on Paraffin Sections. <u>Recommended Positive Control:</u> Tonsil tissue. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	This Monoclonal HP6025 antibody recognizes the heavy chain of Human IgG4, at an epitope in the Fc region. No cross-reactivity is observed with IgG1, IgG2, IgG3, IgM, IgA (See <i>Jefferis et al.</i> 1985 for details).
Species Reactivity:	Tested: Human. Expected from sequence similarity: Chimpanzee.
Storage:	Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
General Readings:	1. Jefferis R, Reimer CB, Skvaril F, de Lange GG, Goodall DM, Bentley TL, et al. Evaluation of monoclonal antibodies having specificity for human IgG subclasses: results of the 2nd IUIS/WHO collaborative study. <i>Immunol Lett.</i> 1992 Feb;31(2):143-68. PubMed PMID: 1371266. 2. Agaimy A, Bihl MP, Tornillo L, Wünsch PH, Hartmann A, Michal M. Calcifying fibrous tumor of the stomach: clinicopathologic and molecular study of seven cases with literature review and reappraisal of histogenesis. <i>Am J Surg Pathol.</i> 2010 Feb;34(2):271-8. doi: 10.1097/PAS.0b013e3181ccb172. PubMed PMID: 20090503.

3. Strehl, J.D. et al. (2011) Numerous IgG4-positive plasma cells are ubiquitous in diverse localised non-specific chronic inflammatory conditions and need to be distinguished from IgG4-related systemic disorders. *J Clin Pathol*. Jan 12. [Epub ahead of print]
4. Black CM, McDougal JS, Evatt BL, Reimer CB. Human markers for IgG2 and IgG4 appear to be on the same molecule in the chimpanzee. *Immunology*. 1991 Jan;72(1):94-8. PubMed PMID: 1997405.
5. Fernandez-Becerra, C. (2010) Naturally-acquired humoral immune responses against the N- and C-termini of the Plasmodium vivax MSP1 protein in endemic regions of Brazil and Papua New Guinea using a multiplex assay. *Malar J*. 9: 29.
6. Lee HW, Moon SU, Kim YJ, Cho SH, Lin K, Na BK, et al. High levels of antibodies to Plasmodium falciparum liver stage antigen-1 in naturally infected individuals in Myanmar. *Korean J Parasitol*. 2008 Sep;46(3):195-8. doi: 10.3347/kjp.2008.46.3.195. PubMed PMID: 18830063.
7. Shiokawa, M. et al. (2013) Risk of Cancer in Patients With Autoimmune Pancreatitis. *Am J Gastroenterol*. Jan 15. [Epub ahead of print]
8. Whelan SF, Hofbauer CJ, Horling FM, Allacher P, Wolfsegger MJ, Oldenburg J, et al. Distinct characteristics of antibody responses against factor VIII in healthy individuals and in different cohorts of hemophilia A patients. *Blood*. 2013 Feb 7;121(6):1039-48. doi: 10.1182/blood-2012-07-444877. Epub 2012 Dec 12. PubMed PMID: 23243272.
9. Fujimoto, M. et al. (2013) Stromal plasma cells expressing immunoglobulin G4 subclass in non-small cell lung cancer. *Hum Pathol*. Mar 1 [Epub ahead of print]
10. Miyagawa-Hayashino A, Matsumura Y, Kawakami F, Asada H, Tanioka M, Yoshizawa A, et al. High ratio of IgG4-positive plasma cell infiltration in cutaneous plasmacytosis--is this a cutaneous manifestation of IgG4-related disease? *Hum Pathol*. 2009 Sep;40(9):1269-77. doi: 10.1016/j.humpath.2009.01.013. Epub 2009 Apr 22. PubMed PMID: 19386351.
11. Yamashita K, Haga H, Kobashi Y, Miyagawa-Hayashino A, Yoshizawa A, Manabe T. Lung involvement in IgG4-related lymphoplasmacytic vasculitis and interstitial fibrosis: report of 3 cases and review of the literature. *Am J Surg Pathol*. 2008 Nov;32(11):1620-6. doi: 10.1097/PAS.0b013e318172622f. PubMed PMID: 18753944.
12. Yamashita K, Haga H, Mikami Y, Kanematsu A, Nakashima Y, Kotani H, et al. Degree of IgG4+ plasma cell infiltration in retroperitoneal fibrosis with or without multifocal fibrosclerosis. *Histopathology*. 2008 Feb;52(3):404-9. doi: 10.1111/j.1365-2559.2007.02959.x. PubMed PMID: 18269592.
13. Navaneethan U, Bennett AE, Venkatesh PG, Lian L, Hammel J, Patel V, et al. Tissue infiltration of IgG4+ plasma cells in symptomatic patients with ileal pouch-anal anastomosis. *J Crohns Colitis*. 2011 Dec;5(6):570-6. doi: 10.1016/j.crohns.2011.05.011. Epub 2011 Jun 24. PubMed PMID: 22115377.
14. Shiokawa, M. et al. (2013) Risk of Cancer in Patients With Autoimmune Pancreatitis. *Am J Gastroenterol*. Jan 15. [Epub ahead of print].
15. Engelmann, R. et al. (2014) Bone resorption correlates with the frequency of CD5+ B cells in the blood of patients with rheumatoid arthritis. *Rheumatology (Oxford)*. pii: keu351.