

Product Information

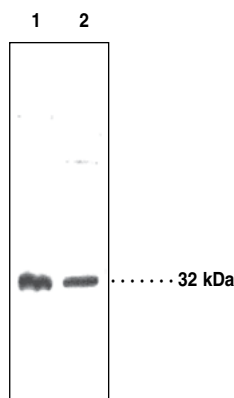


11 β -Hydroxysteroid Dehydrogenase (Type 1) Polyclonal Antibody

Item No. 10004303 • Lot. No. XXXXXX

- Synonyms:** 11 β -HSD1; Corticosteroid 11- β -Dehydrogenase Isozyme 1
- Contents:** This vial contains *lot specific* μ g peptide affinity-purified IgG in *lot specific* μ l TBS, pH *lot specific*, containing 50% glycerol, *lot specific* mg/ml BSA, and 0.02% sodium azide
- Host:** Rabbit
- Antigen:** Human 11 β -HSD1 amino acids 78-92. The antigen alignment with other sequences is as follows:
Human, mouse, and rat CLELGAASAHYIAGT
Cow and sheep CLELGAASAHYvAGT
Pig s LELGA s SAHYvAGT
Guinea pig CLELGAASAHYIAG s
- Cross-reactivity:** (+) Human, mouse, and rat 11 β -HSD1; other species not tested
- Stability:** \geq 1 year at -20°C
- Applications:** The recommended starting dilution for western blot and immunohistochemistry (formalin-fixed paraffin-embedded sections) is *lot specific* μ g/ml. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

11 β -Hydroxysteroid dehydrogenase (Type 1) (11 β -HSD1) catalyzes the conversion of inactive cortisone to active cortisol in adipose tissue. Its expression more closely parallels that of the glucocorticoid receptor than that of the mineralocorticoid receptor, to regulate the exposure of cortisol to glucocorticoid receptors.¹ mRNA and protein of this enzyme have been detected in a wide range of tissues including liver, kidney, testis, lung, heart, and colon.² The enzyme's expression is developmentally regulated, suggesting its importance in regulation of glucocorticoid action during embryonic development.³ Over-expression of 11 β -HSD1 results in visceral obesity and metabolic syndrome including insulin-resistant diabetes, hyperlipidemia, and hyperphagia.⁴ Cayman's 11 β -HSD1 polyclonal antibody detects a 32 kDa protein in human, mouse, and rat liver samples by western blot analysis. The antibody can be used on paraffin embedded tissue sections to detect 11 β -HSD1 expression.



Lane 1: Rat liver microsomes (50 μ g)
Lane 2: Mouse liver microsomes (50 μ g)

Laboratory Procedures

Immunoperoxidase staining procedure

A. Paraffin sections

1. Deparaffinize sections 3 times with xylene or xylene substitute, 5 minutes each.
2. Rehydrate sections 2 times with 100% ethanol, 5 minutes each, followed by 95%, 90%, 80%, 70%, 50% ethanol, 5 minutes each.
3. Rinse sections in distilled water for 5 minutes.
4. Block endogenous peroxidase activity with 0.3% H₂O₂ in water (use methanol instead of water in case of strong endogenous peroxidase activity) for 15 minutes.
5. Wash sections 3 times in TBS containing 0.1% Tween 20 (TBST), pH 7.4, 5 minutes each.
6. Incubate sections with 5% normal serum (same species as the host of secondary antibody) for 30 minutes.
7. Rinse sections 3 times with TBST, pH 7.4, 5 minutes each.
8. Incubate sections with a 1:50 dilution of 11 β -HSD1 polyclonal antibody (recommended starting dilution. Optimal dilution to be determined by end user) overnight at 4°C.
9. Wash sections 3 times in TBST, pH 7.4, 5 minutes each.
10. Incubate sections for 30 minutes with biotinylated secondary antibody, using a dilution as recommended by provider.
11. Wash sections 3 times in TBST, pH 7.4, 5 minutes each.

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery.**

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

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Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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12. Incubate sections for 30 minutes with ABC reagent, using a dilution as recommended by provider.
13. Wash sections 3 times in TBST, pH 7.4, 5 minutes each.
14. Incubate sections in peroxidase substrate solution. Check staining under a microscope frequently. When desired staining intensity is achieved, rinse sections with distilled water thoroughly.
15. Counter stain sections if desired. Rinse sections thoroughly after counter stain.
16. Dehydrate sections through 50%, 70%, 80%, 90%, 95%, and 100% ethanol (2 times) for 5 minutes each.
17. Clear sections 3 times with xylene or xylene substitute, 5 minutes.
18. Mount sections with coverslips.

References

1. Ricketts, M.L., Verhaeg, J.M., Bujalska, I., *et al.* Immunohistochemical localization of type 1 11 β -hydroxysteroid dehydrogenase in human tissue. *J. Clin. Endocrinol. Metab.* **83**(4), 1325-1335 (1998).
2. White, P.C., Mune, T., and Agarwal, A.K. 11 β -hydroxysteroid dehydrogenase and the syndrome of apparent mineralocorticoid excess. *Endocr. Rev.* **18**(1), 135-156 (1997).
3. Thompson, A., Han, V.K.M., and Yang, K. Differential expression of 11 β -hydroxysteroid dehydrogenase types 1 and 2 mRNA and glucocorticoid receptor protein during mouse embryonic development. *J. Steroid Biochem. Molec. Biol.* **88**, 367-375 (2004).
4. Masuzaki, H., Paterson, J., Shinyama, H., *et al.* A transgenic model of visceral obesity and the metabolic syndrome. *Science* **294**, 2166-2170 (2001).

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