

PRODUCT INFORMATION

NR5A1 (C247S, C412S mutant; human, recombinant)

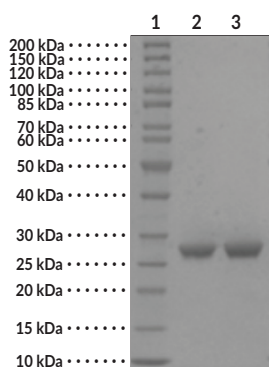
Item No. 41072

Overview and Properties

Synonyms:	Ad4BP, Adrenal 4-binding Protein, Fushi Tarazu Factor Homolog 1, Nuclear Receptor Subfamily 5 Group A Member 1, SF-1, Steroidogenic Factor 1
Source:	Recombinant human N-terminal His-tagged NR5A1 (C247S, C412S mutant) expressed in <i>E. coli</i>
Amino Acids:	218-461
Uniprot No.:	Q13285
Molecular Weight:	31.01 kDa
Storage:	-80°C (as supplied); avoid repetitive freeze/thaw cycles
Stability:	≥1 year
Supplied in:	20 mM Tris-HCl, pH 8.5, with 1 mM TCEP and 150 mM sodium chloride
Protein Concentration:	<i>batch specific</i> mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: NR5A1 (2 µg, reduced)
Lane 3: NR5A1 (2 µg, non-reduced)

SDS-PAGE Analysis of NR5A1. This protein has a calculated molecular weight of 31.01 kDa.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/18/2024

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



Description

Nuclear receptor subfamily 5 group A member 1 (NR5A1) is a nuclear receptor and member of fushi tarazu factor 1 subfamily of nuclear proteins.^{1,2} NR5A1 monomers are composed of a hinge region, corepressor or coactivator binding site, a DNA-binding domain, and a hydrophobic ligand-binding domain, which can associate with different types of lipids, such as phosphatidylcholine, phosphatidylethanolamine, or phosphatidylglycerol, to activate steroidogenic gene expression.¹⁻³ Additional post-translational modifications, including phosphorylation, acetylation, and SUMOylation, are necessary for coactivator or corepressor binding and transcriptional activity or repression, respectively.¹ NR5A1 is critical in embryonic and pubescent sexual organ development and is expressed in the testes, ovaries, hypothalamus, and spleen, as well as pituitary and adrenal glands.^{2,4} Mutations in NR5A1 are associated with low testosterone levels, androgyny, male infertility, malformed testes, ovarian dysfunction, and adrenal insufficiency.⁴⁻⁶ Cayman's NR5A1 (C247S, C412S mutant; human, recombinant) protein consists of 243 amino acids and has a calculated molecular weight of 31.01 kDa.

References

1. Urs, A.N., Dammer, E., Kelly, S., *et al.* Steroidogenic factor-1 is a sphingolipid binding protein. *Mol. Cell. Endocrinol.* **265-266**, 174-178 (2007).
2. Wang, W., Zhang, C., Marimuthu, A., *et al.* The crystal structures of human steroidogenic factor-1 and liver receptor homologue-1. *Proc. Natl. Acad. Sci. USA* **102(21)**, 7505-7510 (2005).
3. Sablin, E.P., Blind, R.D., Krylova, I.N., *et al.* Structure of SF-1 bound by different phospholipids: Evidence for regulatory ligands. *Mol. Endocrinol.* **23(1)**, 25-34 (2009).
4. Fabbri-Scaliet, H., de Sousa, L.M., Maciel-Guerra, A.T., *et al.* Mutation update for the NR5A1 gene involved in DSD and infertility. *Hum. Mutat.* **41(1)**, 58-68 (2020).
5. Köhler, B., Lin, L., Ferraz-de-Souza, B., *et al.* Five novel mutations in steroidogenic factor 1 (SF1, NR5A1) in 46,XY patients with severe underandrogenization but without adrenal insufficiency. *Hum. Mutat.* **29(1)**, 59-64 (2008).
6. Lourenço, D., Brauner, R., Lin, L., *et al.* Mutations in NR5A1 associated with ovarian insufficiency. *N. Engl. J. Med.* **360(12)**, 1200-1210 (2009).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM