

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived human APCDD1 protein Leu27-His492, with a C-terminal 6-His tag Accession # Q8J025
N-terminal Sequence Analysis	Ser25 & Leu27
Predicted Molecular Mass	54 kDa

SPECIFICATIONS

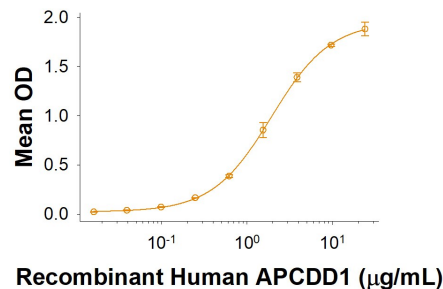
SDS-PAGE	50-70 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When 300 ng/mL of Biotinylated Recombinant Mouse Wnt-3a (Catalog # BT1324) is immobilized onto Streptavidin coated plate (Catalog # CP004), it binds to Recombinant Human APCDD His-tag (Catalog # 10141-AP) with an ED ₅₀ of 0.6-4.8 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

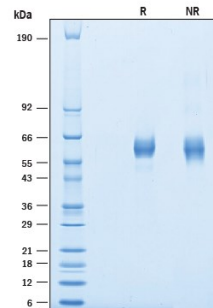
DATA

Binding Activity



When 300 ng/mL of Biotinylated Recombinant Mouse Wnt-3a (Catalog # BT1324) is immobilized onto Streptavidin coated plate (Catalog # CP004), it binds to Recombinant Human APCDD1 (Catalog # 10141-AP) with an ED₅₀ of 0.6-4.8 µg/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse APCDD1 His-tag (Catalog # 10141-AP) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 50-70 kDa.

BACKGROUND

APCDD1 (Adenomatosis Polyposis Coli Down-Regulated 1) is a membrane bound glycoprotein that is an endogenous inhibitor of the Wnt signaling pathway (1, 2). Inhibition of Wnt signaling by APCDD1 plays a role in adipocyte differentiation as well as pathogenesis of disease (2-4). Mature human APCDD1 consists of a 465 amino acid (aa) extracellular domain (ECD), a 19 aa transmembrane domain, and a 1 aa cytoplasmic region. Human APCDD1 shares a 95% and 94% amino acid sequence similarity with rat and mouse respectively. APCDD1 interacts *in vitro* with Wnt-3a and LRP5 (5). It is expressed in a broad repertoire of cell types which might regulate a diversity of biological processes controlled by Wnt signaling, including breast cancer cell invasion (6), osteogenic differentiation of human dental follicle cells (7), vascular remodeling and barrier maturation of retinal blood vessels (4) and hair follicle miniaturization (5). Extracellular domain of APCDD1 has been shown to co-immunoprecipitate with recombinant Wnt-3a and LRP5 (1), suggesting that APCDD1 can modulate the Wnt pathway by potential interactions with Wnt-3a and LRP5 at the cell surface.

References:

1. Mazzoni, J. *et al.* (2017) *Neuron*. **96**:1055.
2. Yiew, N.K.H. *et al.* (2017) *J. Biol. Chem.* **292**:6312.
3. Shimomura, Y. (2010) *Nature* **464**:1043.
4. Kandimalla, R. (2017) *Oncogenesis* **6**:e308.
5. Yutaka Shimomura, *et al.* (2010) *Nature* **464**:1043.
6. Sung-Gook CHO, (2017) *Oncology Letters* **14**:4845.
7. Viale-Bouroncle S. *et al.* (2015) *Biochem Biophys Res Commun* **457**(3):314.