Recombinant Human Arylsulfatase A/ARSA Protein (His Tag)

Catalog Number: PKSH031600

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

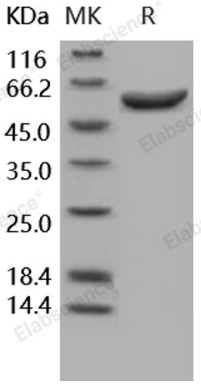
Description

Species	Human
Source	HEK293 Cells-derived Human Arylsulfatase A/ARSA protein Met 1-Ala 507, with an C-terminal His
Calculated MW	53 kDa
Observed MW	53 kDa
Accession	NP_000478.2
Bio-activity	Measured by its ability to hydrolyze the substrate 4-Nitrocatechol Sulfate (PNCS). The specific activity is > 50 pmoles/min/μg.

Properties

Purity	> 97% as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per μg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile 25 mM Tris, 0.15 mM NaCl, pH 7.5 Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 97 % as determined by reducing SDS-PAGE.

Background

Arylsulfatase A (ARSA) is synthesized as a 52KDa lysosomal enzyme. It is a member of the sulfatase family that is required for the lysosomal degradation of cerebroside-3-sulfate, a sphingolipid sulfate ester and a major constituent of the myelin sheet. Arylsulfatase A is activated by a required co- or posttranslational modification with the oxidation of cysteine to formylglycine. Metachromatic leukodystrophy (MLD) is a lysosomal storage disease in the central and peripheral nervous systems with severe and progressive neurological symptoms caused by the deficiency of Arylsulfatase A. Deficiency of this enzyme is also found in apparently healthy individuals, a condition for which the term pseudodeficiency is introduced. ARSA forms dimers after receiving three N-linked oligosaccharides in the endoplasmic reticulum, and then the dimers are transported to the Golgi where they receive mannose 6-phosphate recognition markers. And thus, ARSA is transported and delivered to dense lysosomes in a mannose 6-phosphate receptor-dependent manner. It has been shown that within the lysosomes, the ARSA dimers can oligomerize to an octamer in a pH-dependent manner. The ARSA deficiency leads to metachromatic leucodystrophy (MLD), a lysosomal storage disorder associated with severe and progressive demyelination in he central and peripheral nervous system. Additionally, the serum level of arylsulfatase A might be helpful in diagnosis of lung and central nervous system cancer.

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