
Product Data Sheet

Product Name: BLVRA Human
 Cat. No.: GP21444
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Biliverdin reductase A; BVR A; Biliverdin-IX alpha-reductase; BLVRA; BLVR; BVR; BVRA.		
Amino Acid Sequence	MAEPERKFGV VVVGVGRAGS VRMRDLRNPV PSSAFLNLIG FVSRRELGSI DGVQQISLED ALSSQEVEVA YICSESSSHE DYIRQFLNAG KHVLVEYPMT LSLAAAQELW ELAEQKGVKVL HEEHVLLME EFAFLKKEVV GKDLLKGSLL FTAGPLEEER FGFPFSGIS RLTWLVSFLGELSLVSATLE ERKEDQYMKM TVCLETEKKS PLSWIEEKGP GLKRNRYLSF HFKSGSLENV PNVGVNKNIF LKDQNFVQK LLGQFSEKEL AAEKKRILHC LGLAEEIQKY CCSRK.		
Formulation	The BLVRA solution contains 20mM Tris-HCl buffer (pH8.0) and 10% glycerol.		

Introduction

Biliverdin reductase A (BLVRA) is a member of the gfo/idh/mocA family. BLVRA is an enzyme that converts biliverdin to bilirubin, converting a double-bond between the second and third pyrrole ring into a single-bond. BLVRA reduces the gamma-methene bridge of the open tetrapyrrole, biliverdin IX alpha, to bilirubin with the simultaneous oxidation of a NADH or NADPH cofactor (Bilirubin + NAD(P)⁺ = biliverdin + NAD(P)H). BLVRA is a regulator for induction of activating transcription factor-2 and heme oxygenase-1. Furthermore, BLVRA enhances the role of HO-1 in cytoprotection and provides cytoprotection independent of heme degradation. In addition, Bilirubin while acting as a cytoprotective antioxidant is itself oxidized to biliverdin and subsequently recycled by biliverdin reductase back to bilirubin.

Stability

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer

Caution: Product has not been fully validated for medical applications. For research use only.

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periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

Background

BLVRA Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 295 amino acids (3-296 a.a. and Methionine at N-terminus) and having a molecular mass of 33.3kDa (molecular weight on SDS-PAGE will shift up). The BLVRA is purified by proprietary chromatographic techniques.

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