Data Sheet (Cat.No.TMPY-02222)

TargetMol

S100A3 Protein, Human, Recombinant (His & MBP)

General Information

Synonyms: S100 calcium binding protein A3;S100E

Protein Construction: A DNA sequence encoding the human S100A3 (P33764) (Met 1-Gln 101) was fused with an N-terminal polyhistidine-tagged MBP tag at the N-terminus. Predicted N terminal: Met

Species: Human

Expression Host: E. coli

Accession: P33764

Molecular Weight: 55.3 kDa (predicted); 50 kDa (reducing conditions)

QC Testing

Biological Activity: Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.

Purity: > 95 % as determined by SDS-PAGE

Endotoxin: Please contact us for more information.

Formulation: Supplied as sterile PBS, 20% glycerol, pH 7.4.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Protein S100-A3, also known as Protein S-100E, S100 calcium-binding protein A3, S100A3 and S100E, is a member of the S-100 family. S100A3 / S100E contains 2 EF-hand domains. S100A3 / S100E is highly expressed in the differentiating cuticular cells within the hair follicle and organized into mature hair cuticles. High concentrations of S100A3 homotetramer might provide the millimolar level of Ca2+required for hair cuticular barrier formation. S100A3 / S100E is a unique member of the Ca2+-binding S100 protein family with the highest cysteine content and affinity for Zn2+. S100A3 / S100E binds both calcium and zinc. S100A3 / S100E probably binds 2 zinc ions per molecule. It may be involved in calcium-dependent cuticle cell differentiation and hair shaft formation. S100A3 plays an important role in calcium-dependent processes leading to hair shaft formation. S100A3 / S100E is a

unique protein among all members of the calcium-binding S100 family, is specifically expressed at the inner endocuticle of human hair fibers. Upon hair damage, S100A3 / S100E is released from hair fibers and possibly destabilizes the hair tissue architecture.

Reference

Kizawa, K. et al., 2008, J Biol Chem. 283 (8):5004-13.
Kizawa, K. et al., 1998, J Invest Dermatol. 111 (5):879-86.
Kizawa, K. et al., 2002, Biochem Biophys Res Commun. 299 (5):857-62.
Fritz,G. et al., 2002, J Biol Chem. 277 (36):33092-8.