

**CMC Bonding ingredient for hair volume up “Aminoreact™ TsV”**

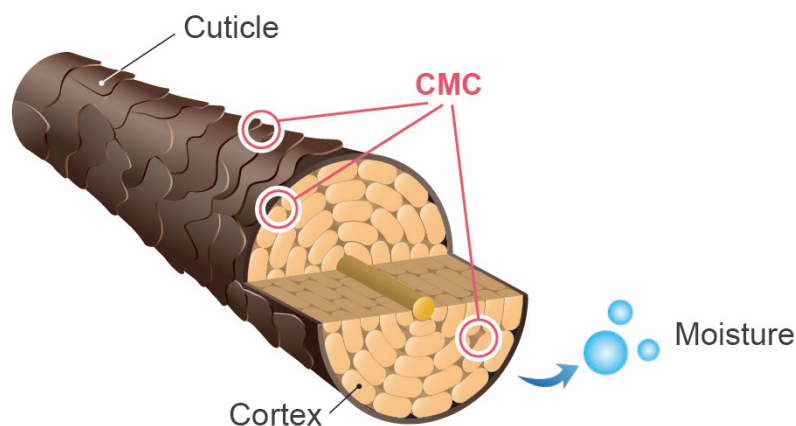
Aminoreact™ TsV, developed by SEIWA KASEI is a CMC bonding ingredient designed for volume up concept product. It was produced by focusing on strengthening hair CMC and was demonstrated increase of hair volume. Aminoreact TsV has been well received in the market and inquiries are increasing.



**Hair bonding structure CMC (Cell Membrane Complex)**

“My hair doesn’t feel strong...” “My hair volume is decreasing, and it feels flat...” One of the causes of such problems may be damage to the CMC. It is an important structure that connects hair cuticle and cortex and holds moisture and nutrients to keep hair flexible and shiny. CMC is the “moisture pathway” of hair, and when it damaged, moisture can easily escape, causing dryness. CMC is also a pathway of coloring and perming agent, so damage to CMC leads to decrease in color and perm durability.

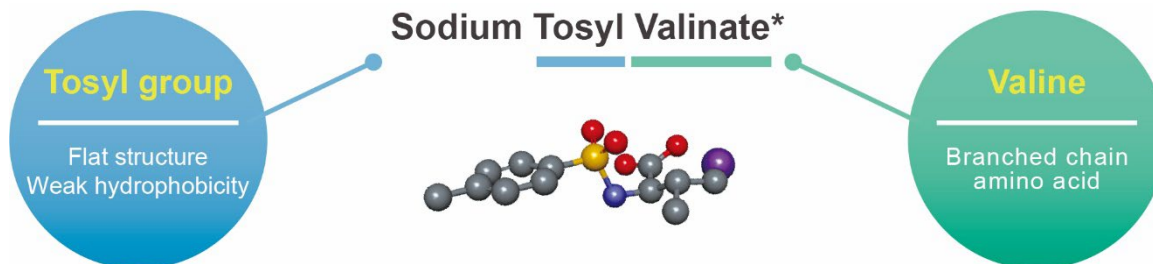
Furthermore, since CMC is responsible for binding the cortex together, when CMC is damaged, the internal structure of the hair becomes unstable, and elasticity is decreased.



Hair structure and CMC

### Aminoreact TsV

Aminoreact TsV, SEIWA’s original hair care ingredient, penetrates the hair and gives the body and volume. Active component of Aminoreact TsV is an amino acid derivative called Sodium Tosyl Valinate, which is a valine, one of amino acids attached to tosyl group. Valine is one of the branched chain amino acids and plays an important role in protein synthesis, particularly related to growing and repairing of muscle, skin and hair.

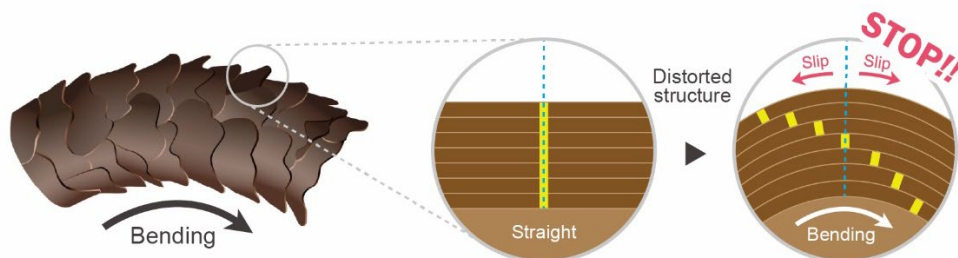


\* Active component of Aminoreact TsV

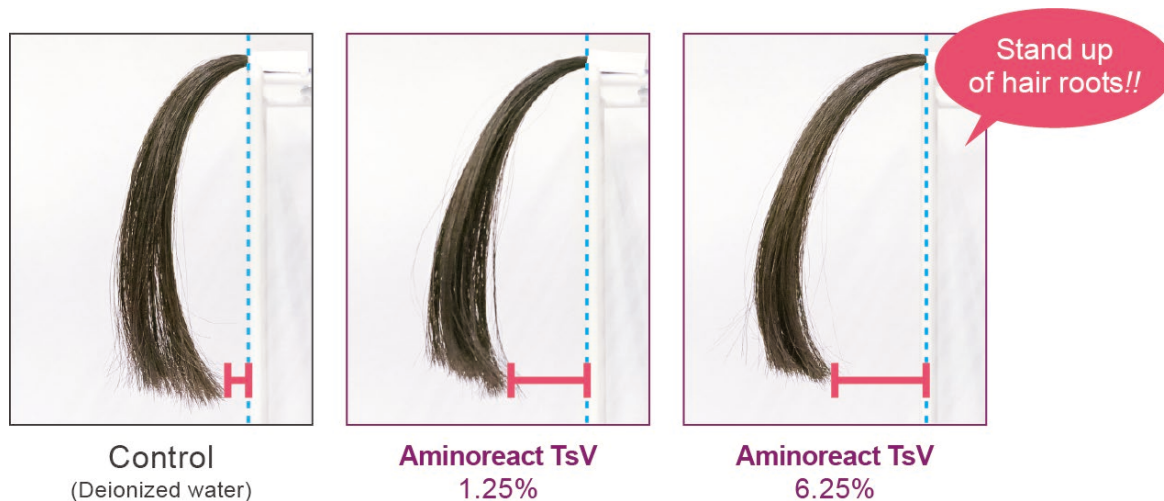
### Mechanism of enhancing hair body

CMC plays a role in connecting hair structures, but it can be damaged by hair care practices such as hair color, perming and brushing. Bending the hair containing damaged CMC causes strain and shift of CMC. Aminoreact TsV penetrates hair, strengthens CMC binding and increases friction, which helps prevent shifts in hair structure and enhances hair body. We call the function of enhancing the effectiveness of this CMC as an adhesion factor “CMC Bond” and propose it as a new bonding concept ingredient.

**Aminoreact™ TsV**  
— CMC Bond —



Aminoreact TsV increases flexural rigidity after treatment of the hair. Flexural rigidity is a measure of how much an object resists the force to bend it (resistance to bending) and is related to the bounce and firmness of hair. We confirmed that Aminoreact TsV treated hair increases flexural rigidity, so it was expected to increase hair firmness. In fact, evaluation by using hair tress demonstrated Aminoreact TsV treated hair increased volume, and it stands up from hair roots.



Aminoreact TsV increases hair volume.

**How to use Aminoreact TsV**

Hair care products such as shampoo, treatment and hair mist including Aminoreact TsV are expected to enhance hair body and volume. It is suitable for volume up shampoo for salon professionals or hair mist which claims bouncy hair.

**Product information**

Product name : Aminoreact™ TsV

INCI name : Sodium Tosyl Valinate, Butylene Glycol, Water

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