# TRPA1 Protein, Human (HEK293, FLAG)

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| **Cat. No.:** | HY-P702566 |
| **Synonyms:** | TRPA1; Transient receptor potential cation channel subfamily A member 1; Ankyrin-like with transmembrane domains protein 1; Transformation-sensitive protein p120; Wasabi receptor |
| **Species:** | Human |
| **Source:** | HEK293 |
| **Accession:** | O75762 (K2-P1119) |
| **Gene ID:** | 8989 |
| **Molecular Weight:** | |

## PROPERTIES

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| **Appearance** | Solution. |
| **Endotoxin Level** | <1 EU/μg, determined by LAL method. |
| **Reconsititution** | Please use rapid thawing with running water to thaw the protein. |
| **Storage & Stability** | Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | Shipping with dry ice. |

## DESCRIPTION

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| **Background** | The TRPA1 protein functions as a receptor-activated non-selective cation channel, playing a crucial role in pain detection and potentially contributing to cold perception, oxygen concentration sensing, cough reflex, itch, and inner ear function. Demonstrating an 8-fold preference for divalent over monovalent cations, TRPA1 is involved in the pain response to endogenous inflammatory mediators and various irritants such as allylthiocyanate (AITC) from mustard oil, cinnamaldehyde, diallyl disulfide (DADS) from garlic, and acrolein from tear gas and vehicle exhaust fumes. Additionally, TRPA1 acts as an ionotropic cannabinoid receptor, responding to delta(9)-tetrahydrocannabinol (THC), the psychoactive component of marijuana. Activation occurs through structurally unrelated electrophilic and non-electrophilic chemical compounds, with electrophilic ligands interacting covalently with critical N-terminal Cys residues. TRPA1 may also function as a component of the mechanosensitive transduction channel in inner ear hair cells, contributing to sound perception. Its activation is modulated by a cytosolic factor, possibly pyrophosphate or polyphosphates, maintaining TRPA1 in an agonist-sensitive state. Furthermore, TRPA1 is inhibited by various blockers, including ruthenium red, A-967079, AP-18, HC-030031, and the aryl sulfonamide derivative ASD, while non-covalent activation is achieved by the scorpion wasabi receptor toxin and various chemical agents. |

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

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