**Description:**

β<sub>2</sub>-Adrenergic receptor-G<sub>αS</sub>-Asn<sup>280</sup> is a fusion protein in which the G<sub>αS</sub>-Asn<sup>280</sup> N-terminus is linked to the β<sub>2</sub>-adrenoceptor (β<sub>2</sub>AR) C-terminus via a hexahistidine (His<sup>6</sup>)-tag. The β<sub>2</sub>AR is activated by the catecholamine epinephrine and couples to the G-protein G<sub>α</sub> to mediate adenylyl cyclase (AC) activation. β<sub>2</sub>ARs are found in numerous tissues and cell types including vascular and bronchial smooth muscle cells, leukocytes and liver. β<sub>2</sub>ARs mediate smooth muscle relaxation, inhibition of leukocyte function and activation of glycogenolysis. G<sub>αS</sub> is the short splice variant of the α-subunit of the heterotrimeric G-protein G<sub>α</sub>. G<sub>α</sub> activates the effector AC. G<sub>αS</sub> differs from the long splice variant (G<sub>αL</sub>) by the absence of a 15-amino acid insert between the raslike domain and the α-helical domain. G<sub>αS</sub> (cat.# PR-505) possesses a higher GDP-affinity than G<sub>αL</sub> (cat.# PR-501). GTP-binding proteins possess a highly conserved aspartate residue in the NKXD motif that is critical for high-affinity interaction with GTP. In small GTP-binding proteins, the D/N-mutation switches base-specificity from guanine to xanthine. In contrast to all other known G<sub>α</sub> D/N mutants, the exchange of Asp<sup>280</sup> to Asn<sup>280</sup> in G<sub>αS</sub> does not lead to an inactivation in nucleotide binding. The D/N mutant is a G<sub>αS</sub> with specificity for XTP (cat.# NU-602) and XppNHp (cat.# NU-403) relative to GTP. In small GTP-binding proteins, the D/N-mutation switches base-specificity from guanine to xanthine. In contrast to all other known G<sub>α</sub> D/N mutants, the exchange of Asp<sup>280</sup> to Asn<sup>280</sup> in G<sub>αS</sub> (cat.# PR-505) possesses a higher GDP-affinity than G<sub>αL</sub> (cat.# PR-501). GTP-binding proteins possess a highly conserved aspartate residue in the NKXD motif that is critical for high-affinity interaction with GTP. In small GTP-binding proteins, the D/N-mutation switches base-specificity from guanine to xanthine. In contrast to all other known G<sub>α</sub> D/N mutants, the exchange of Asp<sup>280</sup> to Asn<sup>280</sup> in G<sub>αS</sub> does not lead to an inactivation in nucleotide binding. The D/N mutant is a G<sub>αS</sub> with specificity for XTP (cat.# NU-602) and XppNHp (cat.# NU-403) relative to GTP. In small GTP-binding proteins, the D/N-mutation switches base-specificity from guanine to xanthine. In contrast to all other known G<sub>α</sub> D/N mutants, the exchange of Asp<sup>280</sup> to Asn<sup>280</sup> in G<sub>αS</sub> does not lead to an inactivation in nucleotide binding. The D/N mutant is a G<sub>αS</sub> with specificity for XTP (cat.# NU-602) and XppNHp (cat.# NU-403) relative to GTP. In small GTP-binding proteins, the D/N-mutation switches base-specificity from guanine to xanthine. In contrast to all other known G<sub>α</sub> D/N mutants, the exchange of Asp<sup>280</sup> to Asn<sup>280</sup> in G<sub>αS</sub> does not lead to an inactivation in nucleotide binding. The D/N mutant is a G<sub>αS</sub> with specificity for XTP (cat.# NU-602) and XppNHp (cat.# NU-403) relative to GTP. In small GTP-binding proteins, the D/N-mutation switches base-specificity from guanine to xanthine. In contrast to all other known G<sub>α</sub> D/N mutants, the exchange of Asp<sup>280</sup> to Asn<sup>280</sup> in G<sub>αS</sub> does not lead to an inactivation in nucleotide binding. The D/N mutant is a G<sub>αS</sub> with specificity for XTP (cat.# NU-602) and XppNHp (cat.# NU-403) relative to GTP. In small GTP-binding proteins, the D/N-mutation switches base-specificity from guanine to xanthine. In contrast to all other known G<sub>α</sub> D/N mutants, the exchange of Asp<sup>280</sup> to Asn<sup>280</sup> in G<sub>αS</sub> does not lead to an inactivation in nucleotide binding. The D/N mutant is a G<sub>αS</sub> with specificity for XTP (cat.# NU-602) and XppNHp (cat.# NU-403) relative to GTP. In small GTP-binding proteins, the D/N-mutation switches base-specificity from guanine to xanthine. In contrast to all other known G<sub>α</sub> D/N mutants, the exchange of Asp<sup>280</sup> to Asn<sup>280</sup> in G<sub>αS</sub> does not lead to an inactivation in nucleotide binding. The D/N mutant is a G<sub>αS</sub> with specificity for XTP (cat.# NU-602) and XppNHp (cat.# NU-403) relative to GTP.