

Product datasheet for **SR414805**

Ceacam1 Mouse siRNA Oligo Duplex (Locus ID 26365)

Product data:

Product Type:	siRNA Oligo Duplexes
Purity:	HPLC purified
Quality Control:	Tested by ESI-MS
Sequences:	Available with shipment
Stability:	One year from date of shipment when stored at -20°C.
# of transfections:	Approximately 330 transfections/2nmol in 24-well plate under optimized conditions (final conc. 10 nM).
Note:	Single siRNA duplex (10nmol) can be ordered.
RefSeq:	NM_001039185 , NM_001039186 , NM_001039187 , NM_011926
UniProt ID:	P31809
Synonyms:	bb-1; Bgp; Bgp1; C-CAM; Cc1; CD66a; Cea-1; Cea-7; Cea1; Cea7; Hv-2; Hv2; mCEA1; Mhv-1; MHVR; MHVR1
Components:	Ceacam1 (Mouse) - 3 unique 27mer siRNA duplexes - 2 nmol each (Locus ID 26365) Included - SR30004, Trilencer-27 Universal Scrambled Negative Control siRNA Duplex - 2 nmol Included - SR30005, RNase free siRNA Duplex Resuspension Buffer - 2 ml
Summary:	Isoform 1: Cell adhesion protein that mediates homophilic cell adhesion in a calcium-independent manner (By similarity). Plays a role as coinhibitory receptor in immune response, insulin action and functions also as an activator during angiogenesis (PubMed:16680193, PubMed:17081782, PubMed:18544705, PubMed:21029969, PubMed:21081647, PubMed:22496641, PubMed:22962327, PubMed:23696226). Its coinhibitory receptor function is phosphorylation- and PTPN6 -dependent, which in turn, suppress signal transduction of associated receptors by dephosphorylation of their downstream effectors (PubMed:17081782, PubMed:21029969, PubMed:22496641). Plays a role in immune response, of T-cells, natural killer (NK) and neutrophils (PubMed:17081782, PubMed:23696226, PubMed:22496641, PubMed:21029969). Upon TCR/CD3 complex stimulation, inhibits TCR-mediated cytotoxicity by blocking granule exocytosis by mediating homophilic binding to adjacent cells, allowing interaction with and phosphorylation by LCK and interaction with the TCR/CD3 complex which recruits PTPN6 resulting in dephosphorylation of CD247 and ZAP70 (PubMed:22496641). Also inhibits T-cell proliferation and cytokine production through inhibition of JNK cascade and plays a crucial role in



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regulating autoimmunity and anti-tumor immunity by inhibiting T-cell through its interaction with HAVCR2 (PubMed:17081782). Upon natural killer (NK) cells activation, inhibit KLRK1-mediated cytolysis of CEACAM1-bearing tumor cells by trans-homophilic interactions with CEACAM1 on the target cell and lead to cis-interaction between CEACAM1 and KLRK1, allowing PTPN6 recruitment and then VAV1 dephosphorylation (PubMed:23696226). Upon neutrophils activation negatively regulates IL1B production by recruiting PTPN6 to a SYK-TLR4-CEACAM1 complex, that dephosphorylates SYK, reducing the production of reactive oxygen species (ROS) and lysosome disruption, which in turn, reduces the activity of the inflammasome (PubMed:22496641). Downregulates neutrophil production by acting as a coinhibitory receptor for CSF3R by downregulating the CSF3R-STAT3 pathway through recruitment of PTPN6 that dephosphorylates CSF3R (PubMed:21029969). Also regulates insulin action by promoting INS clearance and regulating lipogenesis in liver through regulating insulin signaling (PubMed:18544705). Upon INS stimulation, undergoes phosphorylation by INSR leading to INS clearance by increasing receptor-mediated insulin endocytosis. This internalization promotes interaction with FASN leading to receptor-mediated insulin degradation and to reduction of FASN activity leading to negative regulation of fatty acid synthesis. INSR-mediated phosphorylation also provokes a down-regulation of cell proliferation through SHC1 interaction resulting in decrease coupling of SHC1 to the MAPK3/ERK1-MAPK1/ERK2 and phosphatidylinositol 3-kinase pathways (By similarity). Functions as activator in angiogenesis by promoting blood vessel remodeling through endothelial cell differentiation and migration and in arteriogenesis by increasing the number of collateral arteries and collateral vessel calibers after ischemia (PubMed:16680193, PubMed:22962327). Also regulates vascular permeability through the VEGFR2 signaling pathway resulting in control of nitric oxide production (PubMed:21081647). Downregulates cell growth in response to EGF through its interaction with SHC1 that mediates interaction with EGFR resulting in decrease coupling of SHC1 to the MAPK3/ERK1-MAPK1/ERK2 pathway (PubMed:15467833). Negatively regulates platelet aggregation by decreasing platelet adhesion on type I collagen through the GPVI-FcRgamma complex (PubMed:19008452). Inhibits cell migration and cell scattering through interaction with FLNA; interferes with the interaction of FLNA with RALA (By similarity). Mediates bile acid transport activity in a phosphorylation dependent manner (By similarity). Negatively regulates osteoclastogenesis (PubMed:25490771).[UniProtKB/Swiss-Prot Function]

**Performance
Guaranteed:**

OriGene guarantees that at least two of the three Dicer-Substrate duplexes in the kit will provide at least 70% or more knockdown of the target mRNA when used at 10 nM concentration by quantitative RT-PCR when the TYE-563 fluorescent transfection control duplex (cat# SR30002) indicates that >90% of the cells have been transfected and the HPRT positive control (cat# SR30003) provides 90% knockdown efficiency.

For non-conforming siRNA, requests for replacement product must be made within ninety (90) days from the date of delivery of the siRNA kit. To arrange for a free replacement with newly designed duplexes, please contact Technical Services at techsupport@origene.com. Please provide your data indicating the transfection efficiency and measurement of gene expression knockdown compared to the scrambled siRNA control (quantitative RT-PCR data required).