**OriGene Technologies, Inc.**
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

# Product datasheet for KN302835RB

## Ccr2 Mouse Gene Knockout Kit (CRISPR)

### Product data:

| | |
|---|---|
| **Product Type:** | Knockout Kits (CRISPR) |
| **Format:** | 2 gRNA vectors, 1 RFP-BSD donor, 1 scramble control |
| **Donor DNA:** | RFP-BSD |
| **Symbol:** | Ccr2 |
| **Locus ID:** | 12772 |
| **Components:** | **KN302835G1**, Ccr2 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)<br>**KN302835G2**, Ccr2 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)<br>**KN302835RBD**, donor DNA containing left and right homologous arms and RFP-BSD functional cassette.<br>**GE100003**, scramble sequence in pCas-Guide vector |
| **Disclaimer:** | These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process. |
| **RefSeq:** | NM_009915 |
| **UniProt ID:** | P51683 |
| **Synonyms:** | Cc-ckr-2; Ccr2a; Ccr2b; Ckr2; Ckr2a; Ckr2b; Cmkbr2; mJe-r |

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**Summary:** Key functional receptor for CCL2 but can also bind CCL7 and CCL12 chemokines (PubMed:8631787, PubMed:8662823, PubMed:8996246). Its binding with CCL2 on monocytes and macrophages mediates chemotaxis and migration induction through the activation of the PI3K cascade, the small G protein Rac and lamellipodium protrusion (By similarity). Also acts as a receptor for the beta-defensin DEFB106A/DEFB106B (By similarity). Regulates the expression of T-cell inflammatory cytokines and T-cell differentiation, promoting the differentiation of T-cells into T-helper 17 cells (Th17) during inflammation (PubMed:28507030). Faciltates the export of mature thymocytes by enhancing directional movement of thymocytes to sphingosine-1-phosphate stimulation and up-regulation of S1P1R expression; signals through the JAK-STAT pathway to regulate FOXO1 activity leading to an increased expression of S1P1R (PubMed:29930553). Plays an important role in mediating peripheral nerve injury-induced neuropathic pain (PubMed:29993042). Increases NMDA-mediated synaptic transmission in both dopamine D1 and D2 receptor-containing neurons, which may be caused by MAPK/ERK-dependent phosphorylation of GRIN2B/NMDAR2B (PubMed:29993042). Mediates the recruitment of macrophages and monocytes to the injury site following brain injury (PubMed:24806994, PubMed:29632244).[UniProtKB/Swiss-Prot Function]

## Product images: